



Andy's Ham Radio Linux



Andy Stewart
KB1OIQ
February 23, 2026

Presented to:
Border City Radio Club
Windsor, ON, CANADA

Biographical Info

Tech: 1/07, General 1/08, Extra 1/09

President: PART of Westford, MA (9/09 – 8/19)

Vice President: 01/26

ARRL EMA: Assistant Section Manager (2016), ACC (2017)

Founder: Worcester Linux Users' Group (1997)

Founder and Acting President:

Chelmsford Linux Meetup Group (2006-2020)

Linux Instructor:

Chelmsford Community Education (2004 - 2011)

Linux user since 1997

Computer Engineer – digital logic verification – Retired 08/2024

Most Recent Interests

- Antique radios
 - Repair and cleanup, especially 1920s/1930s radios
- Joined a Makerspace (Makelt Labs NH, USA)
 - Fabricated a wooden box for 1940s Meissner 8C
 - Created wooden laptop enclosure RPI 500
 - Soldersmoke: direct conversion 40m receiver
 - Pi Pico SDR
- Fox hunting, POTA, chasing rare DX
- Of course: Andy's Ham Radio Linux (AHRL)

Pi 500 Laptop Enclosure



Goals

- Promote Linux
- Give back to ham radio and Linux communities
- Build on top of an existing Linux distribution
- Create a software collection containing as much ham radio software as possible – nothing proprietary
- Goal: Everything just works!
- Focus on the radio hobby!
- The idea of "Andy's Ham Radio Linux" began this way in 2011

What is AHRL?

- Ham radio software found on the internet
- Collected in one place for the user community
 - Everything is Free Software, Open Source Software, or equivalently licensed
 - Packaged for easy installation
 - Multiple Linux flavors are supported
 - Raspberry Pi OS 5.* supported on RPI 4/5
 - Menus customized for ease of use

AHRL: The Past

- V25 and earlier were heavily customized versions of Xubuntu Linux
- This worked well for 13 years, but ...
 - It was not easily customizable by the user
 - No other flavors of Linux
 - Each release was handcrafted
 - tedious and time consuming x 2 (32/64 bit)
 - No documentation of how it was created
 - The downloadable ISO file was HUGE (around 5 GB)
 - There was no upgrade path between AHRL versions

AHRL: The Present

- Starting with V26:
 - First, the user installs a supported flavor of Linux
 - Secondly, the user downloads and installs AHRL
 - Magically, everything just works (one hopes!)
 - Lastly, have fun with the new software!

AHRL V26 Changes

- Installation script:
 - Serves as documentation
 - Customizable
- Much smaller tar.gz file: 675 MB
- Multiple Linux flavors are supported:
 - Debian Live, LMDE
 - [XKU]buntu Linux
 - Linux Mint (Cinnamon)
 - Raspberry Pi OS
- Install updates on top of previous AHRL V26

Target Computer

- Any x86_64 computer 10 years old or less
...or...
Raspberry Pi 4/5/400/500
- Memory:
 - Minimum: 2 GB
 - Recommended: 8 GB
- Storage for AHRL
 - 15 GB after installation
- Functioning network

Obtaining AHRL

- Download the file from SourceForge:
 - <http://www.sf.net>
 - Search for: Andy's Ham Radio Linux
 - Current version: v26e
 - Released November 29, 2025
 - Click the big green "Download" button
 - `andy_v26e.tar.gz`
 - Also: Files → v26e → GETTING_STARTED
 - ---> Please read the GETTING_STARTED guide(!!!) <---
 - ---> Please read the GETTING_STARTED guide(!!!) <---

Sourceforge Website

Home / Open Source Software / Communications / Ham Radio / KB1OIQ - Andy's Ham Radio Linux



KB1OIQ - Andy's Ham Radio Linux

Install ham radio software on Debian Live, RPi OS, or Ubuntu Linux
Brought to you by: [andystewart](#)

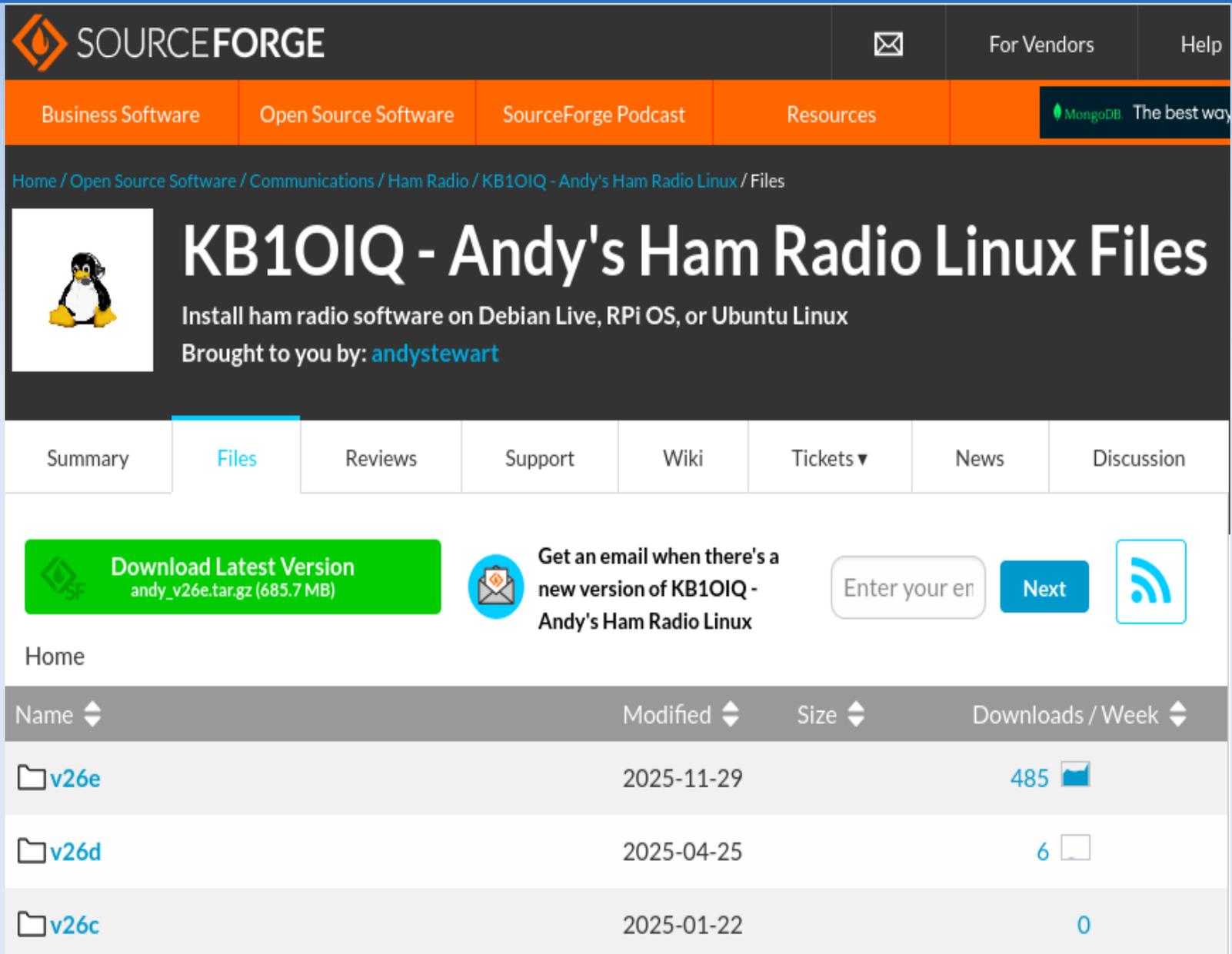


Downloads: 746 This Week **Last Update: 7 days ago**

[Download](#)  [Get Updates](#) [Share This](#)

Summary	Files	Reviews	Support	Wiki	Tickets ▼	News	Discussion
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Sourceforge Website



The screenshot shows the SourceForge website for the project "KB1OIQ - Andy's Ham Radio Linux Files". The page features a navigation bar with "SOURCEFORGE" and links for "Business Software", "Open Source Software", "SourceForge Podcast", "Resources", "For Vendors", and "Help". A breadcrumb trail reads "Home / Open Source Software / Communications / Ham Radio / KB1OIQ - Andy's Ham Radio Linux / Files". The main heading is "KB1OIQ - Andy's Ham Radio Linux Files" with a sub-heading "Install ham radio software on Debian Live, RPi OS, or Ubuntu Linux" and "Brought to you by: andystewart". A navigation menu includes "Summary", "Files", "Reviews", "Support", "Wiki", "Tickets", "News", and "Discussion". A green button says "Download Latest Version andy_v26e.tar.gz (685.7 MB)". A notification box offers to "Get an email when there's a new version of KB1OIQ - Andy's Ham Radio Linux" with an "Enter your email" field and a "Next" button. A "Home" link is present. A table lists files with columns for "Name", "Modified", "Size", and "Downloads / Week".

Name	Modified	Size	Downloads / Week
v26e	2025-11-29		485
v26d	2025-04-25		6
v26c	2025-01-22		0

Sourceforge Website

Home / Open Source Software / Communications / Ham Radio / KB1OIQ - Andy's Ham Radio Linux / Files



KB1OIQ - Andy's Ham Radio Linux Files

Install ham radio software on Debian Live, RPi OS, or Ubuntu Linux
Brought to you by: [andystewart](#)

Summary | **Files** | Reviews | Support | Wiki | Tickets ▾ | News | Discussion

[Download Latest Version](#)
andy_v26e.tar.gz (685.7 MB)

 Get an email when there's a new version of KB1OIQ - Andy's Ham Radio Linux

[Next](#)



[Home](#) / [v26e](#)

Name ↕	Modified ↕	Size ↕	Downloads / Week ↕	
↶ Parent folder				
andy_v26e.tar.gz	2025-11-29	685.7 MB	231 	
md5sum_v26e.txt	2025-11-29	51 Bytes	14 <input type="checkbox"/>	
CHANGES	2025-11-29	20.5 kB	1 <input type="checkbox"/>	
GETTING_STARTED	2025-11-29	11.3 kB	227 	
README	2025-11-29	11.3 kB	0	
README.txt	2025-11-29	11.3 kB	2 <input type="checkbox"/>	
README_FIRST	2025-11-29	11.3 kB	4 <input type="checkbox"/>	
SOFTWARE	2025-11-29	5.6 kB	6 <input type="checkbox"/>	
Totals: 8 Items		685.7 MB	485	

Installing AHRL

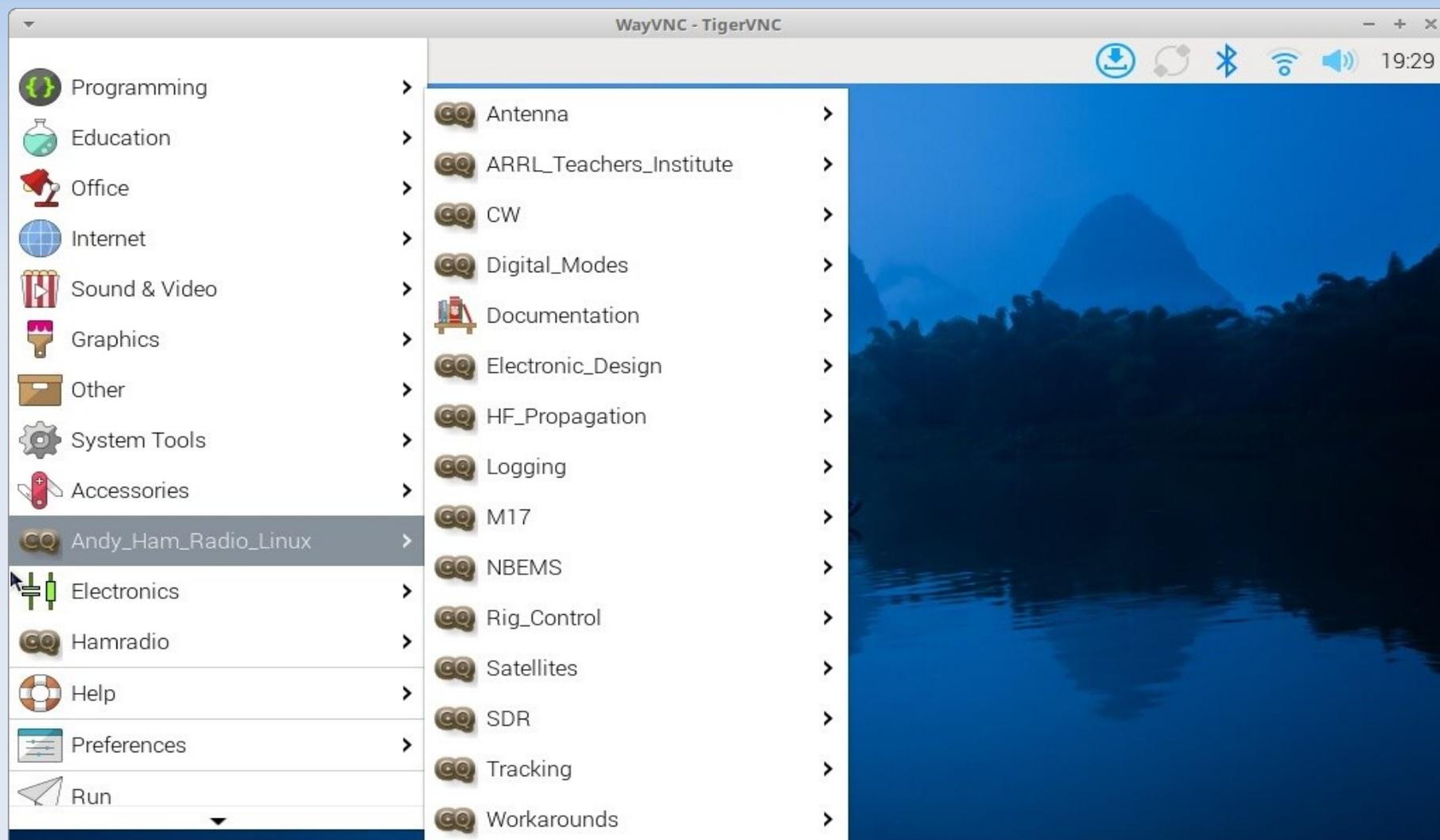
- Follow the instructions in `GETTING_STARTED`
 - (you read it, right?)
- Reboot the computer
- Peruse the menus and see what's there!

Menu Differences

- Some Linux flavors support multi-level menus
 - Raspberry Pi OS
 - Xubuntu
 - Debian Live
- Some do not
 - Linux Mint, LMDE
 - Kubuntu

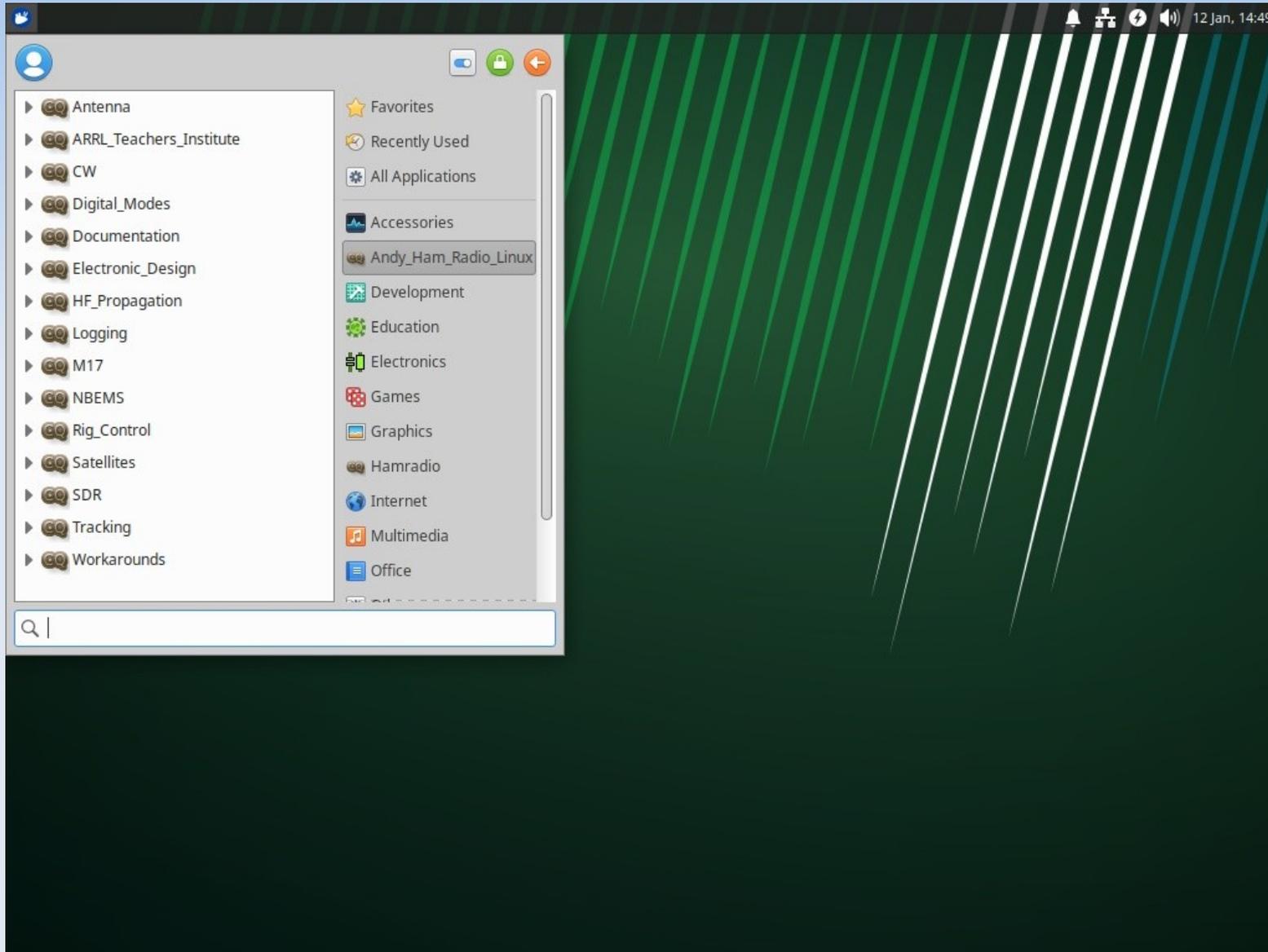
Raspberry Pi 5

AHRL v26e Menu

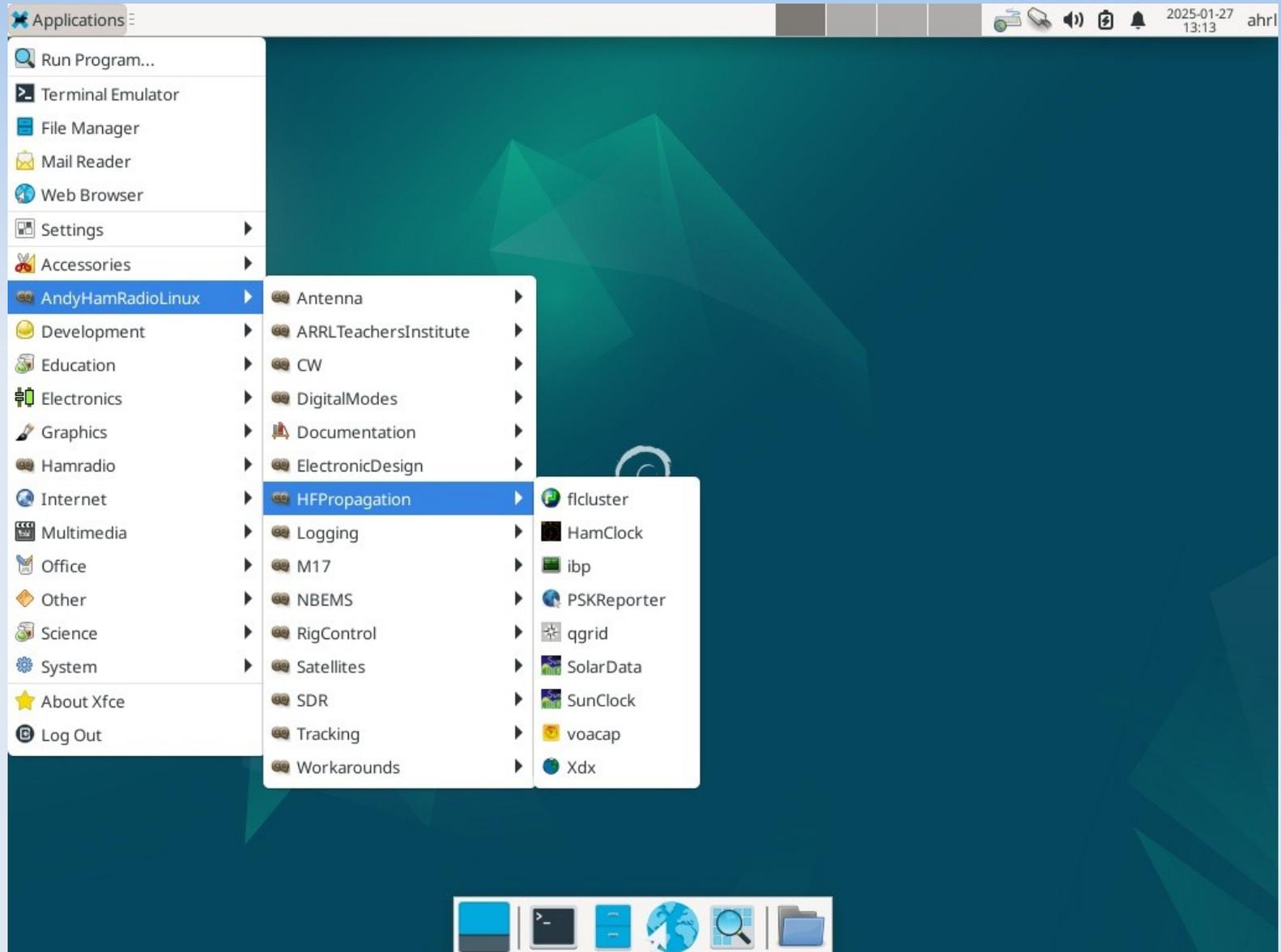


Xubuntu 24.04

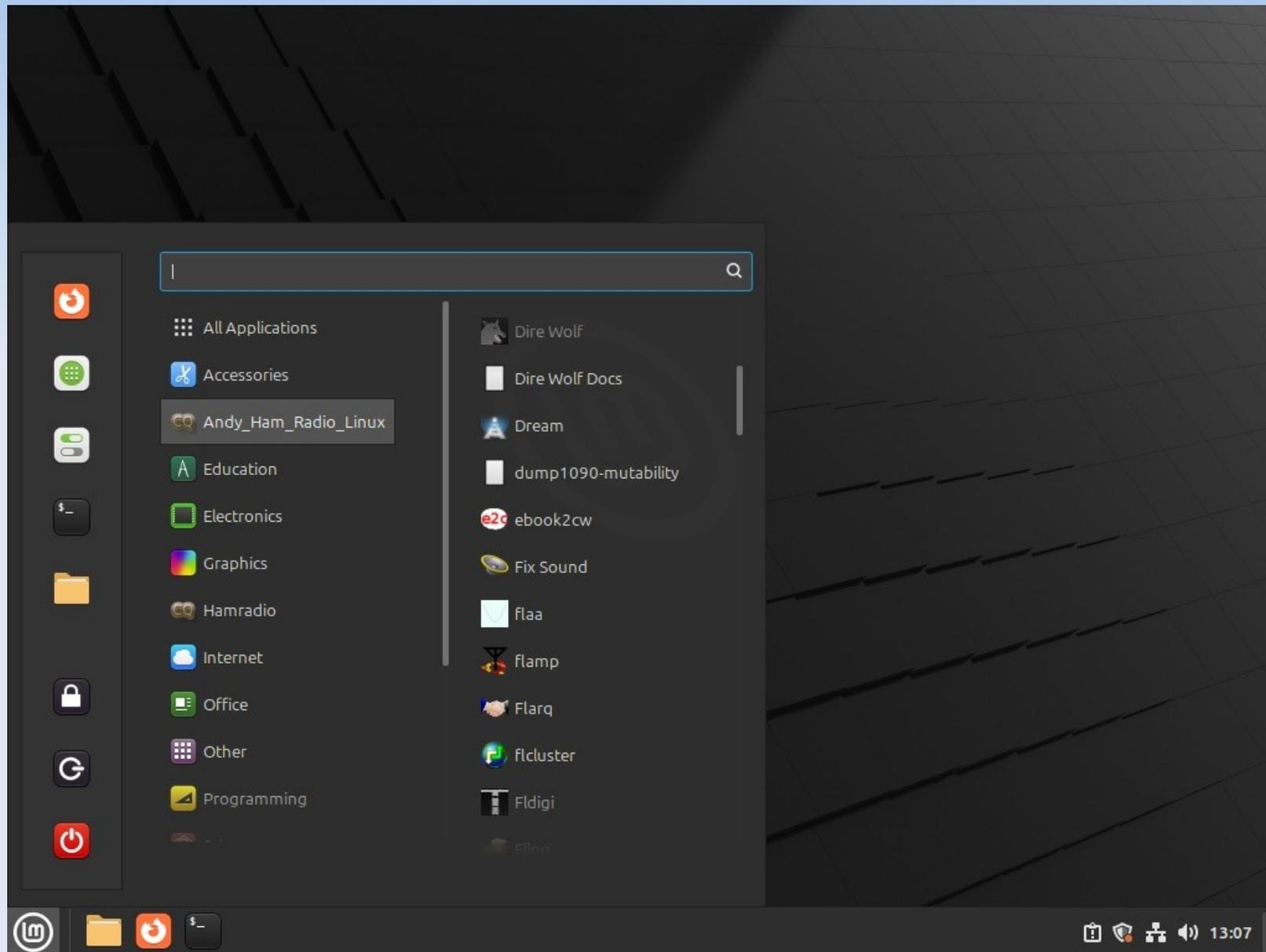
AHRL v26e Menu



Debian Live 12.7.0 AHRL v26e Menu

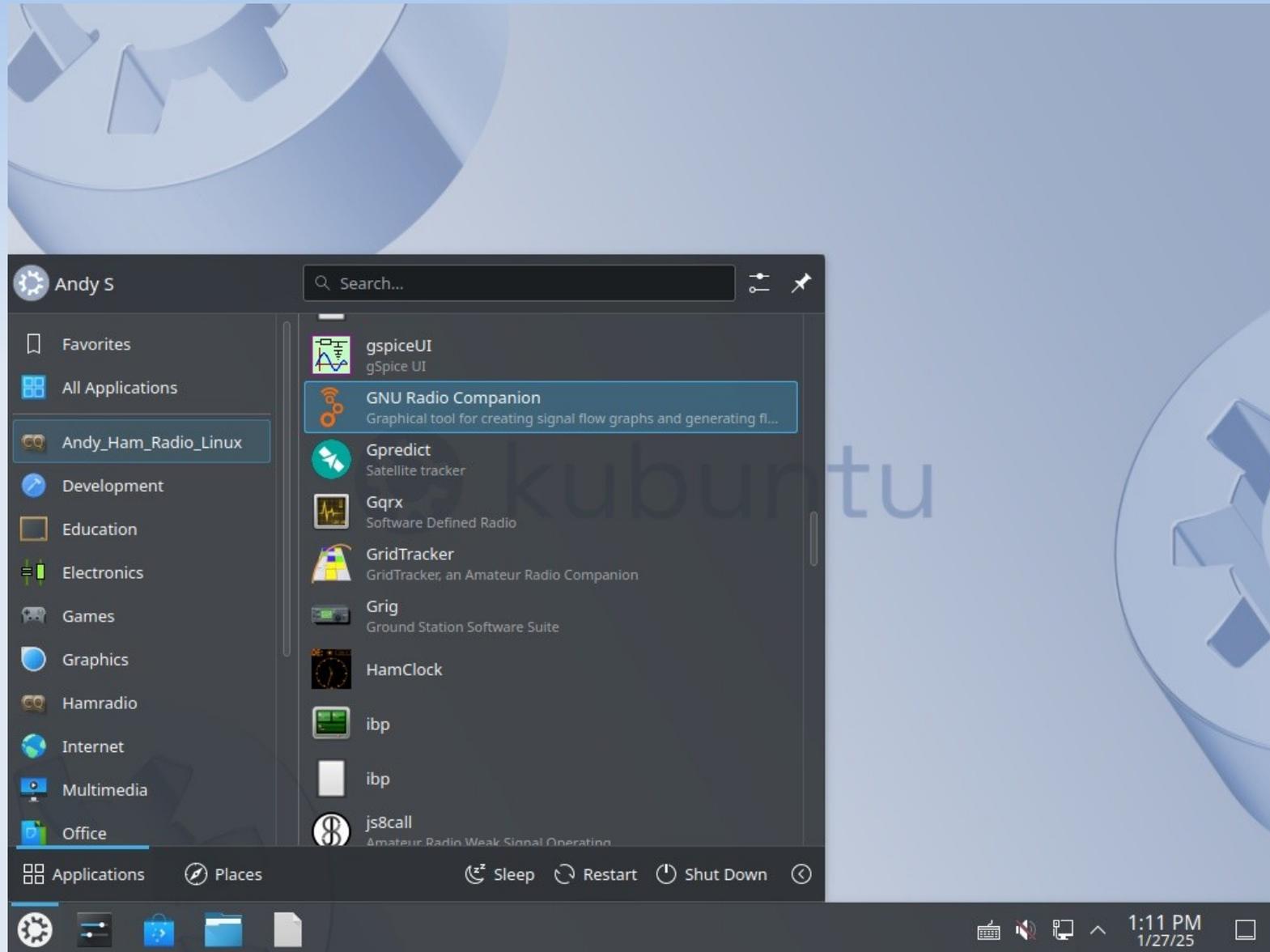


Linux Mint 22 (Cinnamon) AHRL v26e Menu

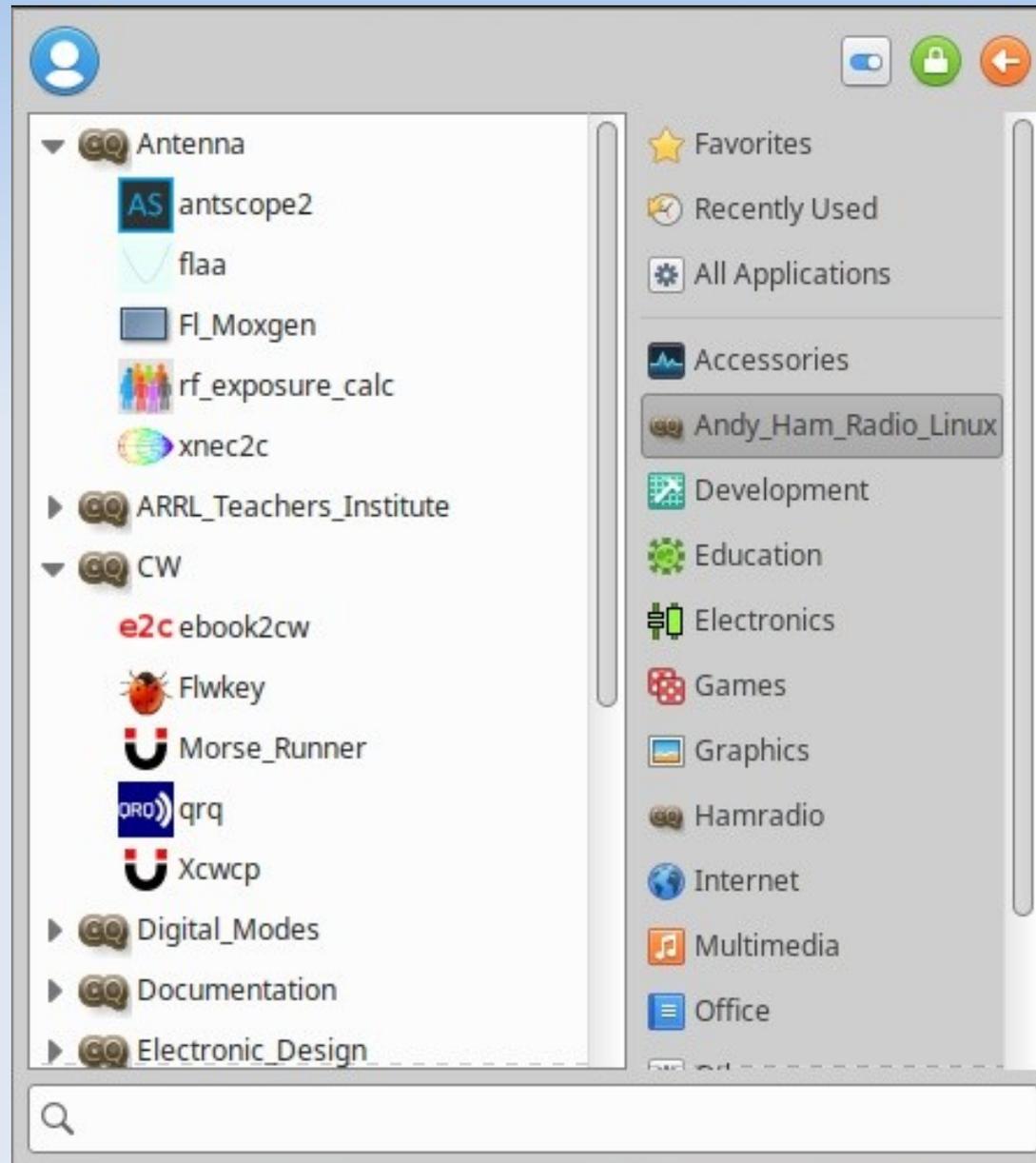


Kubuntu 24.04

AHRL v26e Menu



Antenna Menu



Antennas - Moxon Rectangle

FI_MoxGen

File Help

Frequency (MHz) 146 Wire Size 12 AWG Calculate

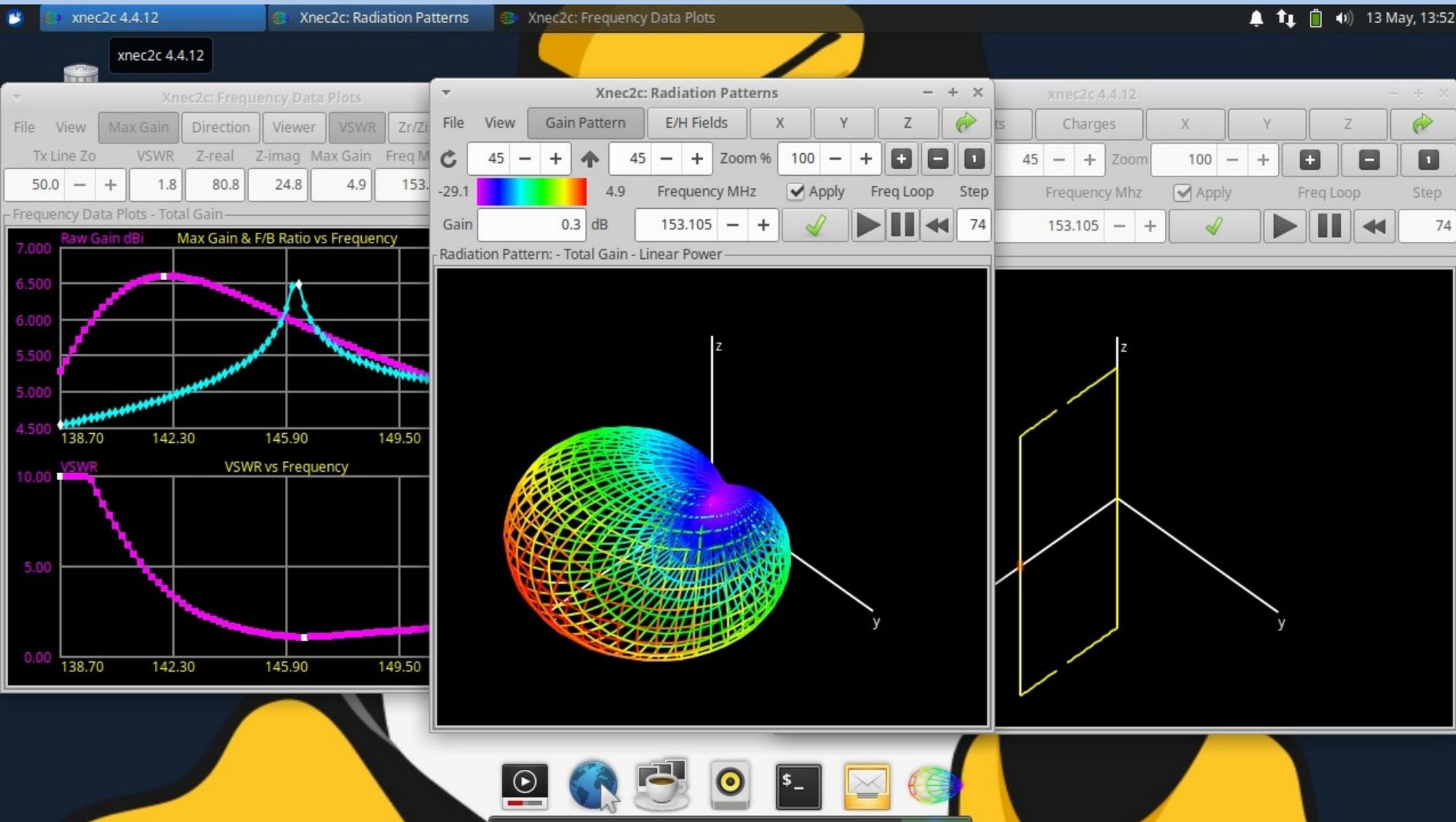
A 29.172 in
B 4.048 in
C 1.172 in
D 5.561 in
E 10.781 in

Result Units
 Inches
 Feet
 Millimeters
 Meters

Quit

Diagram labels: A, B, C, D, E, Feedpoint, Driven Element, Reflector

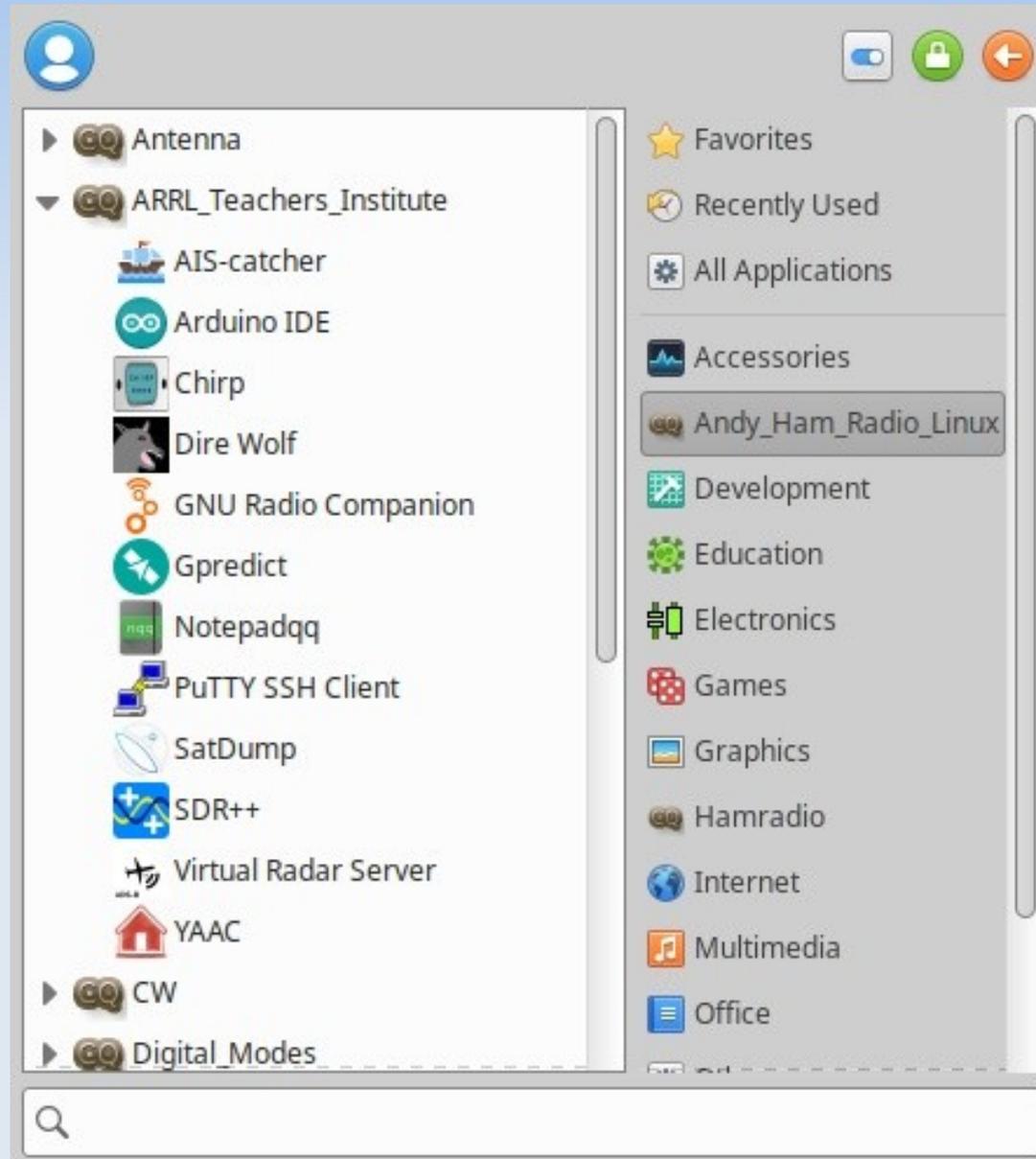
Antenna modeling - xnec2c



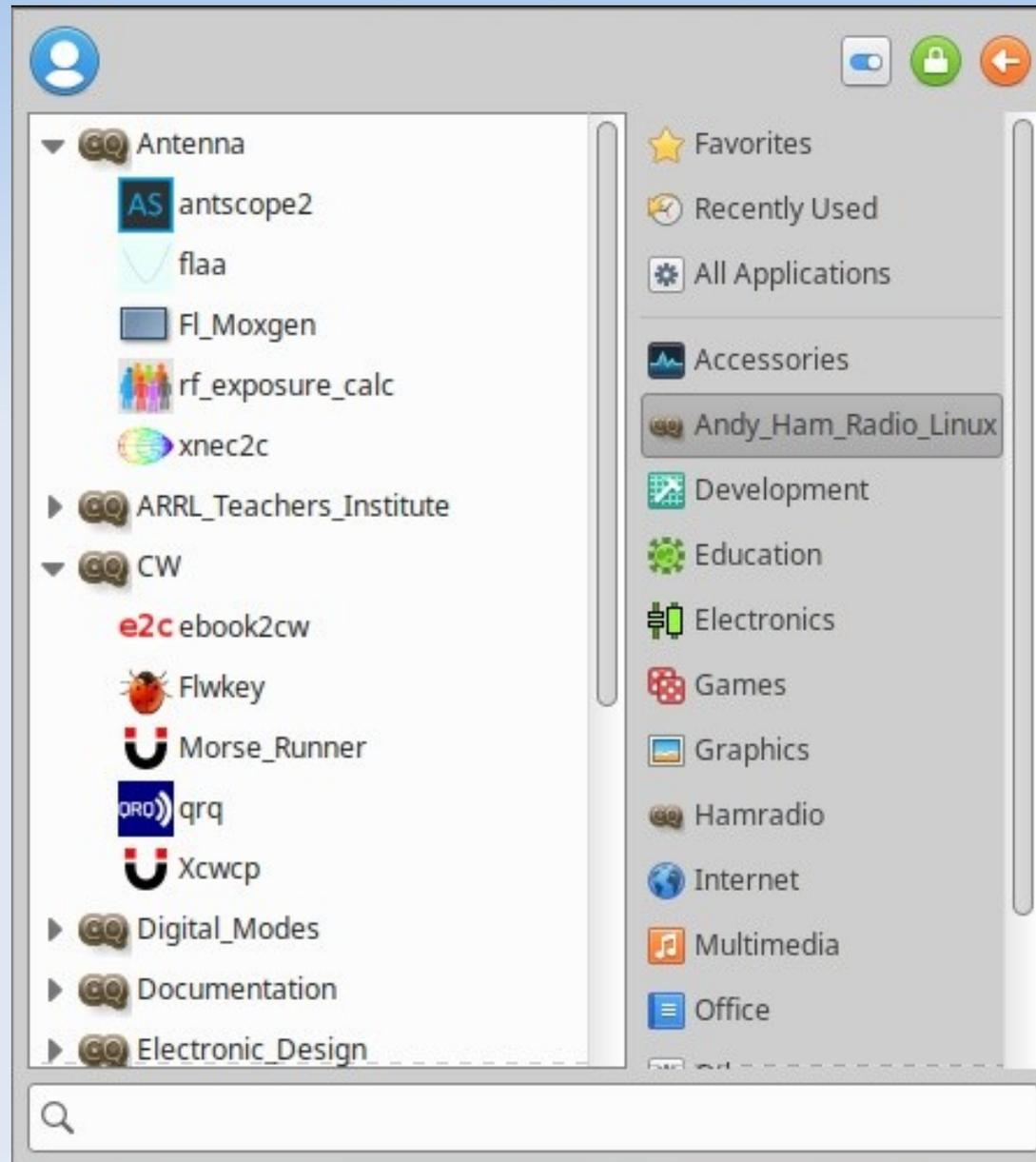
ARRL Teachers Institute

- ARRL is using AHRL !
- Several classes since June 1st, 2025
- Using Raspberry Pi 5
- This has been VERY successful!
- This is GREAT!
 - for ham radio
 - for Linux
 - for AHRL
 - for ARRL
 - for the teachers!

ARRL Teachers Institute Menu



CW Menu



CW - Morse Runner

Morse Runner 1.84
CW CONTEST SIMULATOR
FREEWARE

Copyright ©2004-2016 Alex Shovkoplyas, VE3NEA
<http://www.dxatlas.com/MorseRunner>

Copyright ©2022-2024 Morse Runner Community Edition Contributors
<https://www.github.com/w7sst/MorseRunner>

Contest: ARRL Field Day
Exchange: 3A EMA

Station: Call KB1OIQ QSK
CW Speed: 20 WPM
CW Pitch: 600 Hz
RX Bandwidth: 450 Hz
Mon. Level:

Band Conditions:
 QRN Flutter Activity
 QRM LIDs 2
 QSB

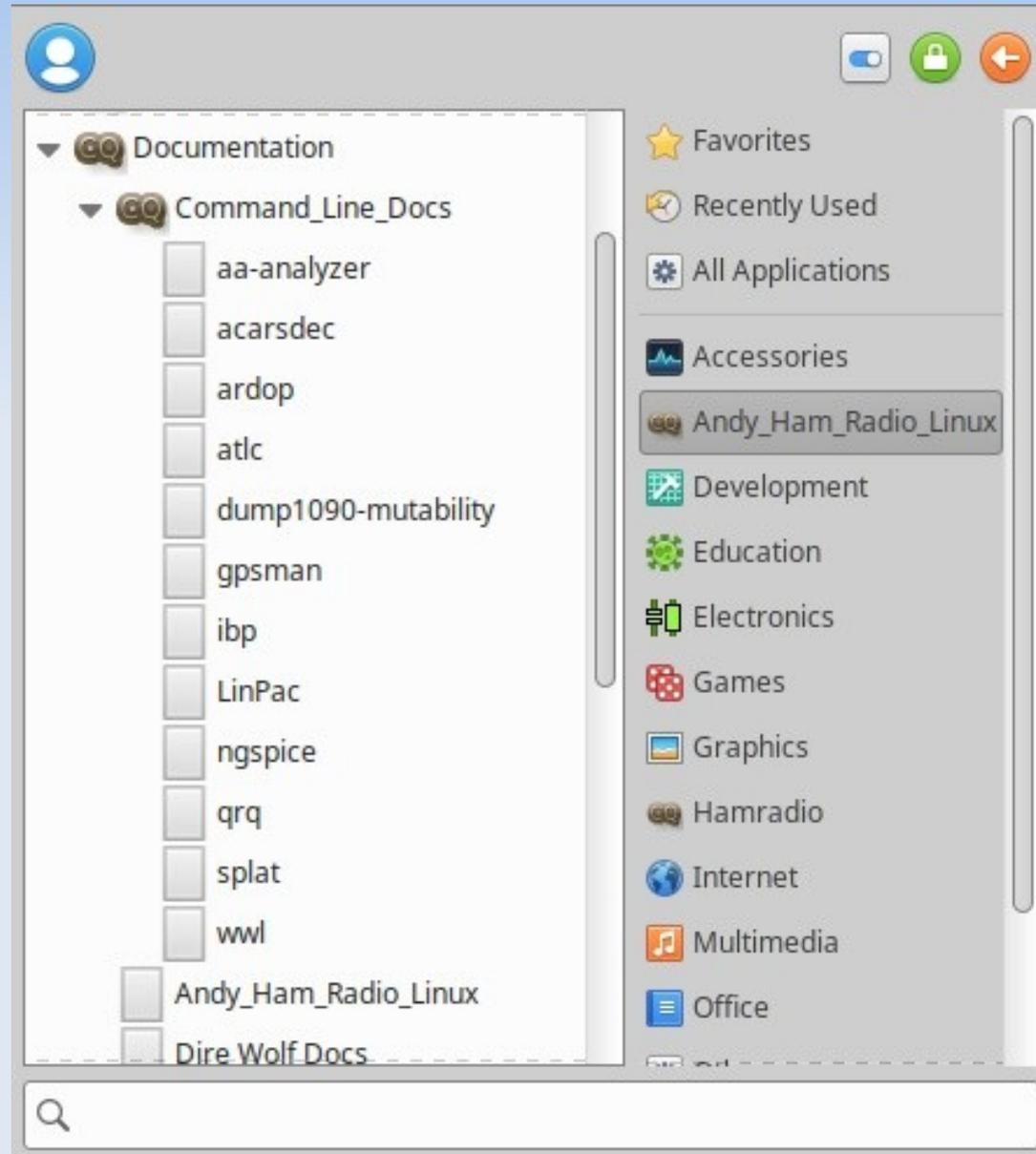
Run for 10 min.

Call	Class	Section	
<input type="text"/>	<input type="text"/>	<input type="text"/>	
F1 CQ	F2 <exch>	F3 TU	F4 <my>
F5 <his>	F6 B4	F7 ?	F8 NIL

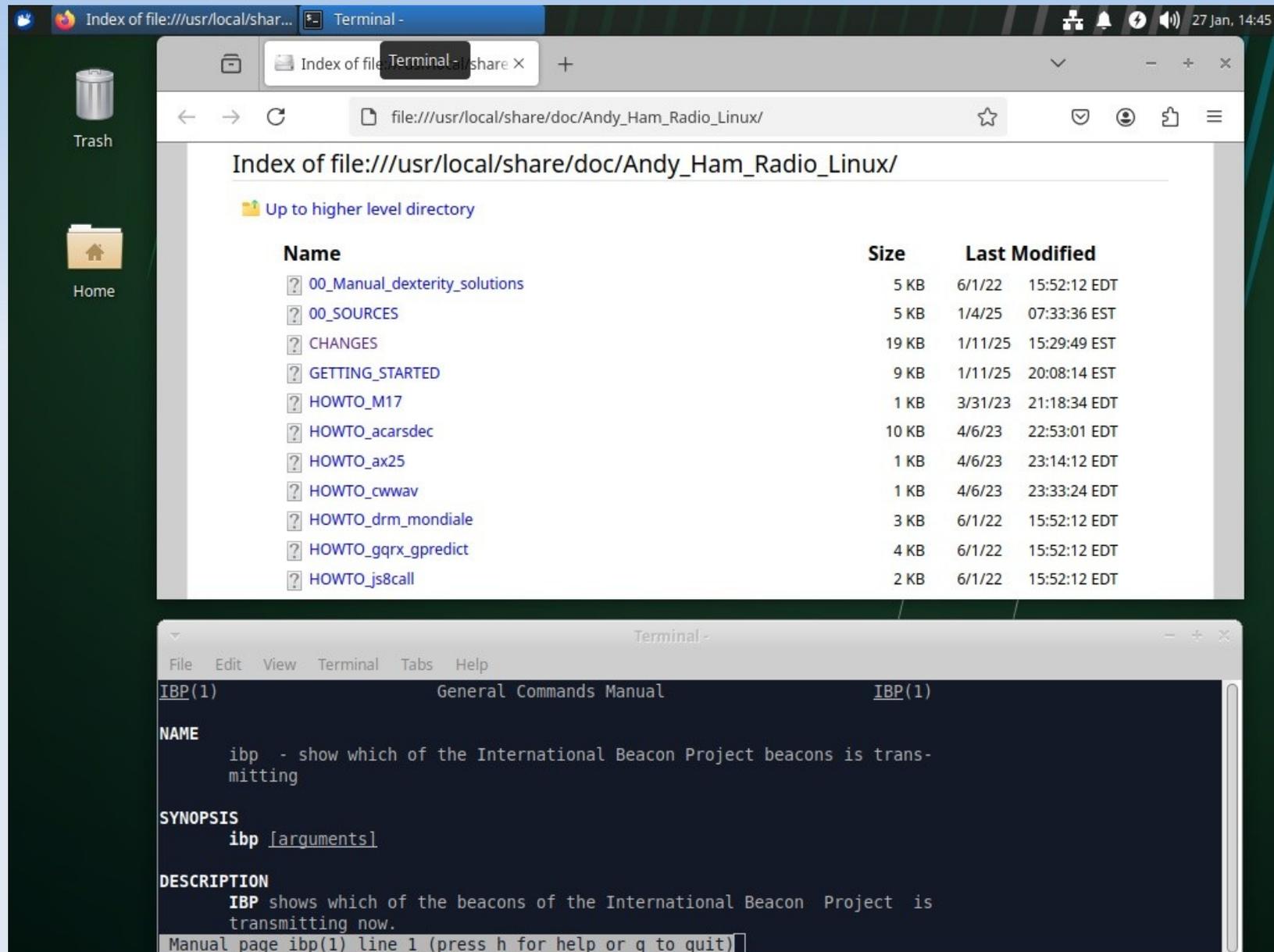
00:00:00

Pts	Raw	Verified
Mult		
Score		

Documentation Menu



Documentation Examples



The screenshot displays a Linux desktop environment. The top panel shows the system tray with icons for network, sound, and power, along with the date and time: 27 Jan, 14:45. The desktop background is dark green. On the left side, there is a sidebar with icons for Trash and Home. The main window is a file manager showing the contents of the directory `file:///usr/local/share/doc/Andy_Ham_Radio_Linux/`. The window title is "Index of file:///usr/local/shar... Terminal - share X". The file manager displays a list of files with columns for Name, Size, and Last Modified. Below the list, there is a terminal window titled "Terminal -" showing the output of the `man ibp` command. The terminal output includes the title "General Commands Manual", the name "ibp - show which of the International Beacon Project beacons is transmitting", the synopsis "ibp [arguments]", and the description "IBP shows which of the beacons of the International Beacon Project is transmitting now." The terminal prompt is `Manual page ibp(1) line 1 (press h for help or q to quit)`.

Index of file:///usr/local/shar... Terminal - share X

file:///usr/local/share/doc/Andy_Ham_Radio_Linux/

Index of file:///usr/local/share/doc/Andy_Ham_Radio_Linux/

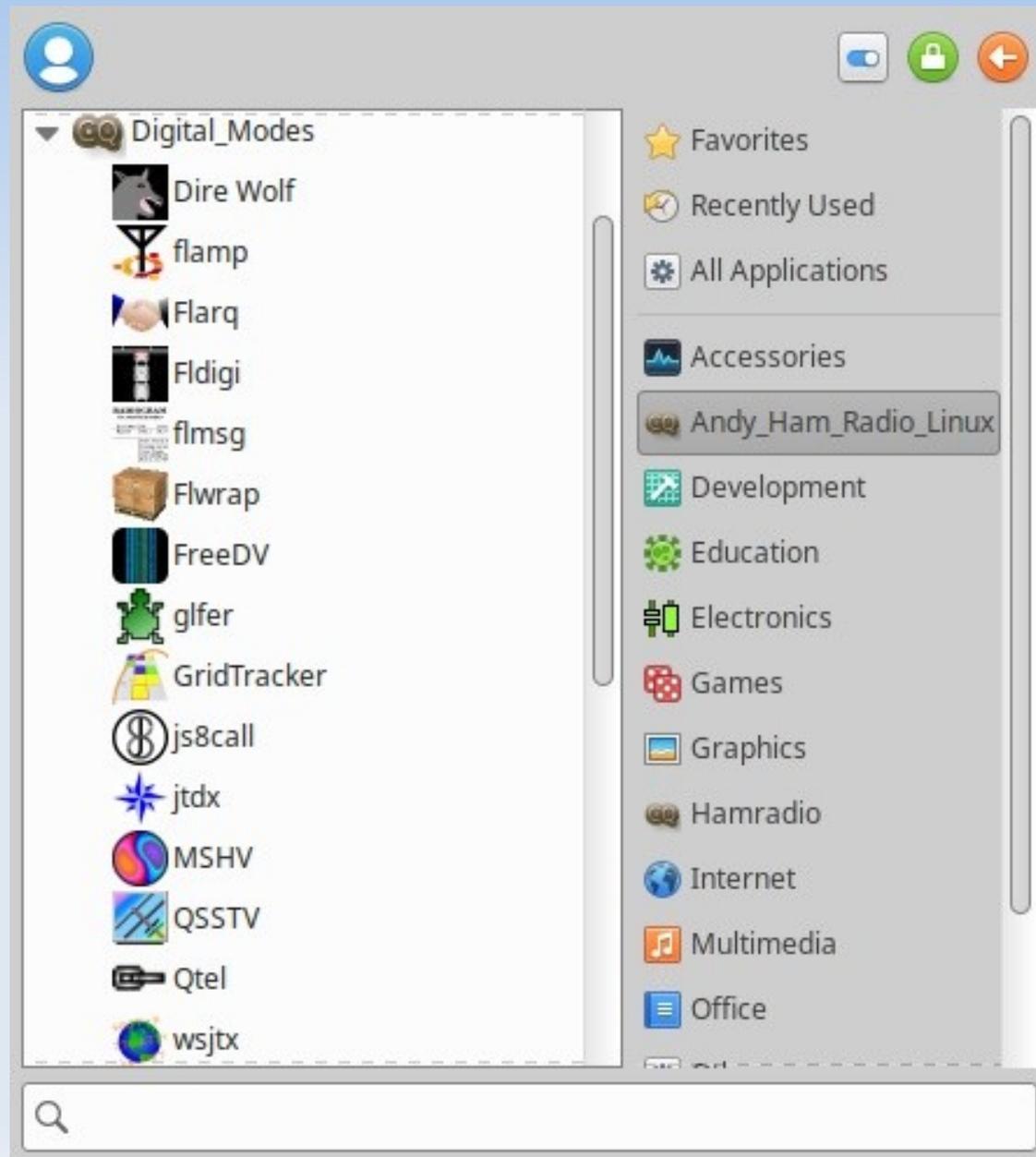
Up to higher level directory

Name	Size	Last Modified
? 00_Manual_dexterity_solutions	5 KB	6/1/22 15:52:12 EDT
? 00_SOURCES	5 KB	1/4/25 07:33:36 EST
? CHANGES	19 KB	1/11/25 15:29:49 EST
? GETTING_STARTED	9 KB	1/11/25 20:08:14 EST
? HOWTO_M17	1 KB	3/31/23 21:18:34 EDT
? HOWTO_acarsdec	10 KB	4/6/23 22:53:01 EDT
? HOWTO_ax25	1 KB	4/6/23 23:14:12 EDT
? HOWTO_cwwav	1 KB	4/6/23 23:33:24 EDT
? HOWTO_drm_mondiale	3 KB	6/1/22 15:52:12 EDT
? HOWTO_gqrx_gpredict	4 KB	6/1/22 15:52:12 EDT
? HOWTO_js8call	2 KB	6/1/22 15:52:12 EDT

Terminal -

```
File Edit View Terminal Tabs Help
IBP(1) General Commands Manual IBP(1)
NAME
  ibp - show which of the International Beacon Project beacons is transmitting
SYNOPSIS
  ibp [arguments]
DESCRIPTION
  IBP shows which of the beacons of the International Beacon Project is transmitting now.
Manual page ibp(1) line 1 (press h for help or q to quit)
```

Digital Modes Menu



Digital Modes - wsjtx

The screenshot displays the WSJT-X v2.7.0-rc2 interface. The top window shows 'Band Activity' and 'Rx Frequency' tables. The 'Band Activity' table lists several digital mode messages, with two highlighted in green: '004030 -17 0.1 2803 ~ CQ KD5NRO EM15' and '004030 -8 -0.0 759 ~ CQ KM5AG EL29'. The 'Rx Frequency' table shows received messages: '003915 8 0.1 1972 ~ RW1F N5WXY 73' and '004030 -10 0.3 1972 ~ K04RJE RW1F R-09'. Below these tables are control buttons for 'CQ only', 'Log QSO', 'Stop', 'Monitor', 'Erase', 'Decode', 'Enable Tx', 'Halt Tx', and 'Tune'. The main control area shows a frequency of 14.074 000 MHz, a mode of FT8, and a power level of 22. A 'Generate Std Msgs' panel is open, showing a list of messages for transmission, including 'HK3G KB1OIQ FN42', 'HK3G KB1OIQ -15', 'HK3G KB1OIQ R-15', 'HK3G KB1OIQ RR73', 'HK3G KB1OIQ 73', and 'CQ KB1OIQ FN42'. The bottom window is the 'Wide Graph' showing a waterfall plot of the frequency spectrum from 500 to 2500 kHz. The graph shows a clear signal at 14.074 MHz. The interface also includes a status bar at the bottom showing 'Receiving FT8' and 'WD:5m'.

Band Activity					Rx Frequency				
UTC	dB	DT	Freq	Message	UTC	dB	DT	Freq	Message
004030	-12	-0.1	2611	~ W1SRR AA0HJ EM09	003915	8	0.1	1972	~ RW1F N5WXY 73
004030	-11	0.5	1481	~ KP4AH AF7VE R-13	004030	-10	0.3	1972	~ K04RJE RW1F R-09
004030	-17	0.1	2803	~ CQ KD5NRO EM15					
004030	-19	0.3	258	~ PA0LSC E7W R-15					
004030	-9	-2.4	805	~ HP1DNS VA7VSM CN89					
004030	-8	-0.0	759	~ CQ KM5AG EL29					
004030	-11	0.1	326	~ K0MDS ZD7DPX RR73					
004030	-13	0.2	1831	~ N3EA KD6SPN R-13					

Digital Modes - GridTracker2

GridTracker2 [Band: 20m Mode: FT8 Layer: Grids - Worked 579 Confirmed 520]

-68.679, -56.189 7729mi 174° GC11VH

RECEIVE

14,074,000 Hz (20m) FT8
Tue 28 Jan 2025 00:43:47 UTC
HK3G -15
Colombia

Rx Calls 60 QSO 12984
Rx DXCC 13 QSL 10826
Clear Live Clear Log

Map View Filters
Band (Auto)
Mode (Auto)
Prop (Mixed)
Data (Logbook & Live)
Award (None)

20m / FT8
GridTracker2
v2.250101.1

Call Roster: 59 heard + 9 in roster + 3 wanted

RECEIVE [Halt TX] [Settings]

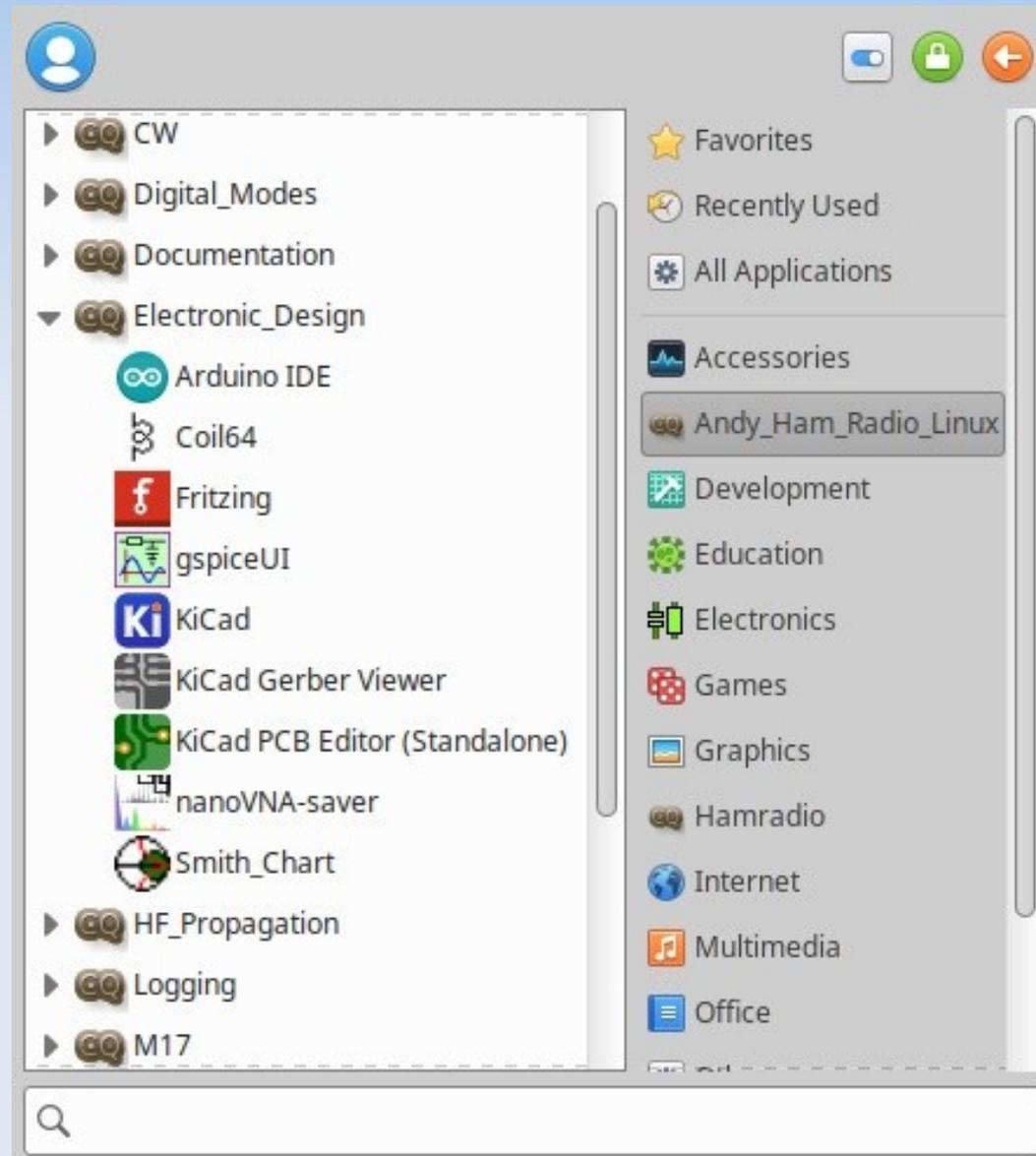
Logbook (Live Band, Digi Modes)
Hunting (New+Unconfirmed)

Wanted
 Callsign
 Grid
 DXCC
 Marathon
 WPX
 OAMS
 CQz
 ITUz
 State
 County
 Continent
 [Watcher]

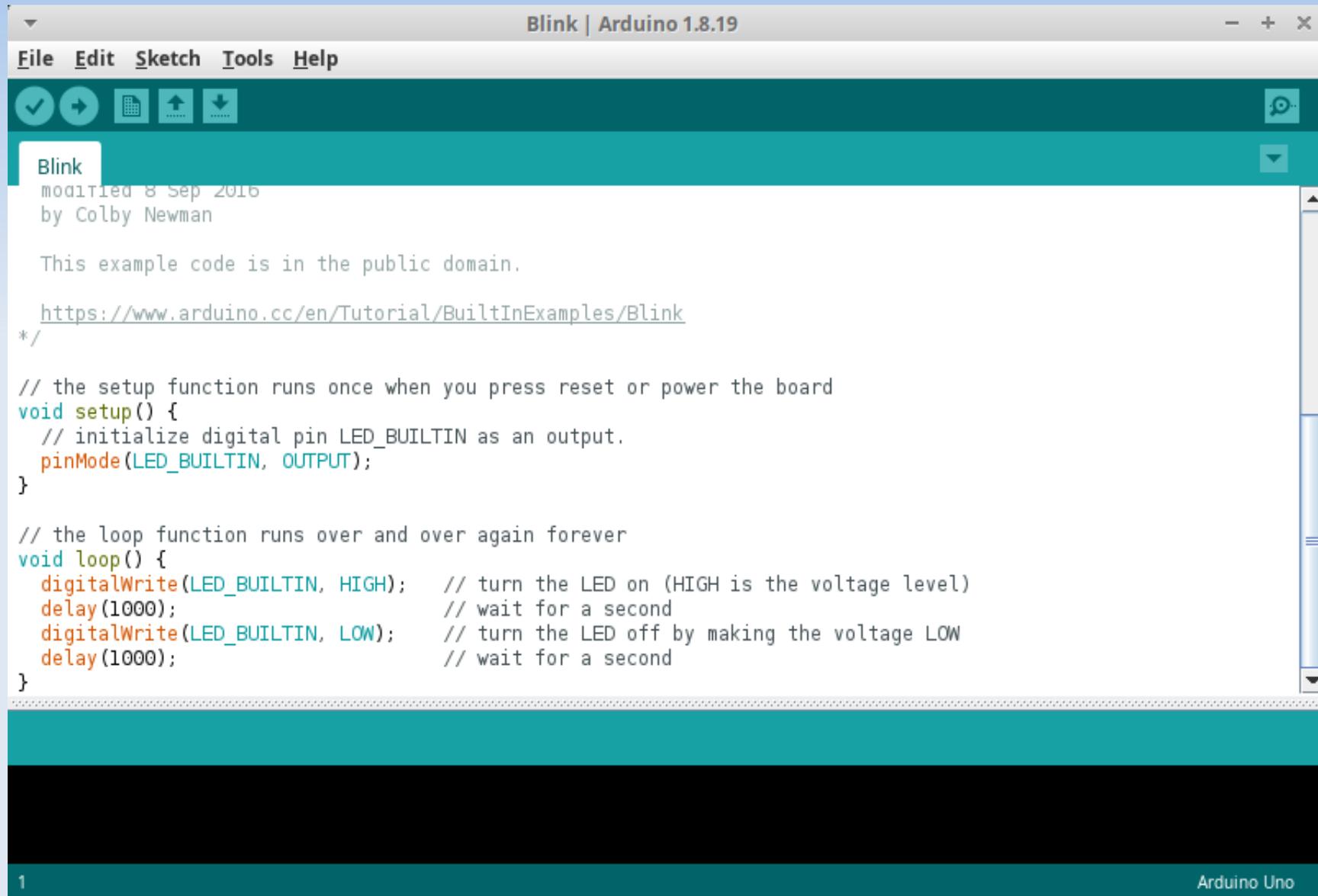
Exceptions
 Only Wanted
 CQ Only
 RR73 as CQ
 New Calls
 Has Grid
 Not My DXCC
 Only My DXCC
 Uses eQSL
 ...

Callsign	Calling	Grid	DXCC	State	Cont	dB	Azim	Age	UTC
D2UY	CQ	J164	Angola		AF	-3	98	4s	00:43:30
LU2EI	CQ	FF94	Argentina		SA	-14	171	18s	00:43:15
VA6DRU	CQ	DO31	Canada	AB	NA	-21	302	34s	00:43:00

Electronic Design Menu



Electronic Design - arduino



The screenshot shows the Arduino IDE interface. The title bar reads "Blink | Arduino 1.8.19". The menu bar includes "File", "Edit", "Sketch", "Tools", and "Help". Below the menu bar is a toolbar with icons for saving, running, and uploading. The main text area contains the following code:

```
Blink
modified 8 Sep 2016
by Colby Newman

This example code is in the public domain.

https://www.arduino.cc/en/Tutorial/BuiltInExamples/Blink
*/

// the setup function runs once when you press reset or power the board
void setup() {
  // initialize digital pin LED_BUILTIN as an output.
  pinMode(LED_BUILTIN, OUTPUT);
}

// the loop function runs over and over again forever
void loop() {
  digitalWrite(LED_BUILTIN, HIGH);   // turn the LED on (HIGH is the voltage level)
  delay(1000);                       // wait for a second
  digitalWrite(LED_BUILTIN, LOW);    // turn the LED off by making the voltage LOW
  delay(1000);                       // wait for a second
}
```

At the bottom left of the IDE, the number "1" is displayed. At the bottom right, "Arduino Uno" is displayed.

Electronic Design - coil64

The screenshot displays the Coil64 v2.1.26 software interface. On the left, a 3D model of a coil is shown with dimensions: D (former diameter), l (winding length), d (wire diameter), and k (insulation thickness). Below the model is a list of coil forms, with "One layer close-winding coil" selected. The main panel contains input fields for Inductance L (50 microH), Frequency f (0.6 MHz), Former diameter D (37 mm), Wire diameter d (3 mm), and Wire diameter with insulation k (3.27 mm). It also includes options for "Select initial data of the calculation" (Former diameter and wire diameter selected) and "Wire material" (Copper selected). A "Calculate" button is at the bottom. On the right, a window titled "Coil64 v2.1.26 - One layer close-winding coil" shows the same 3D model and input values.

Coil64 v2.1.26

File Actions Additional calculations Ferrite cores Branded cores Customize Help

Coil Inductance LC circuit

Inductance L: 50 microH

Frequency f: 0.6 MHz

Former diameter D: 37 mm

Wire diameter d: 3 mm

Wire diameter with insulation k: 3.27 mm

Select initial data of the calculation

- Former diameter and wire diameter
- Former diameter and winding length

Wire material:

- Copper
- Silver
- Aluminum
- Tin

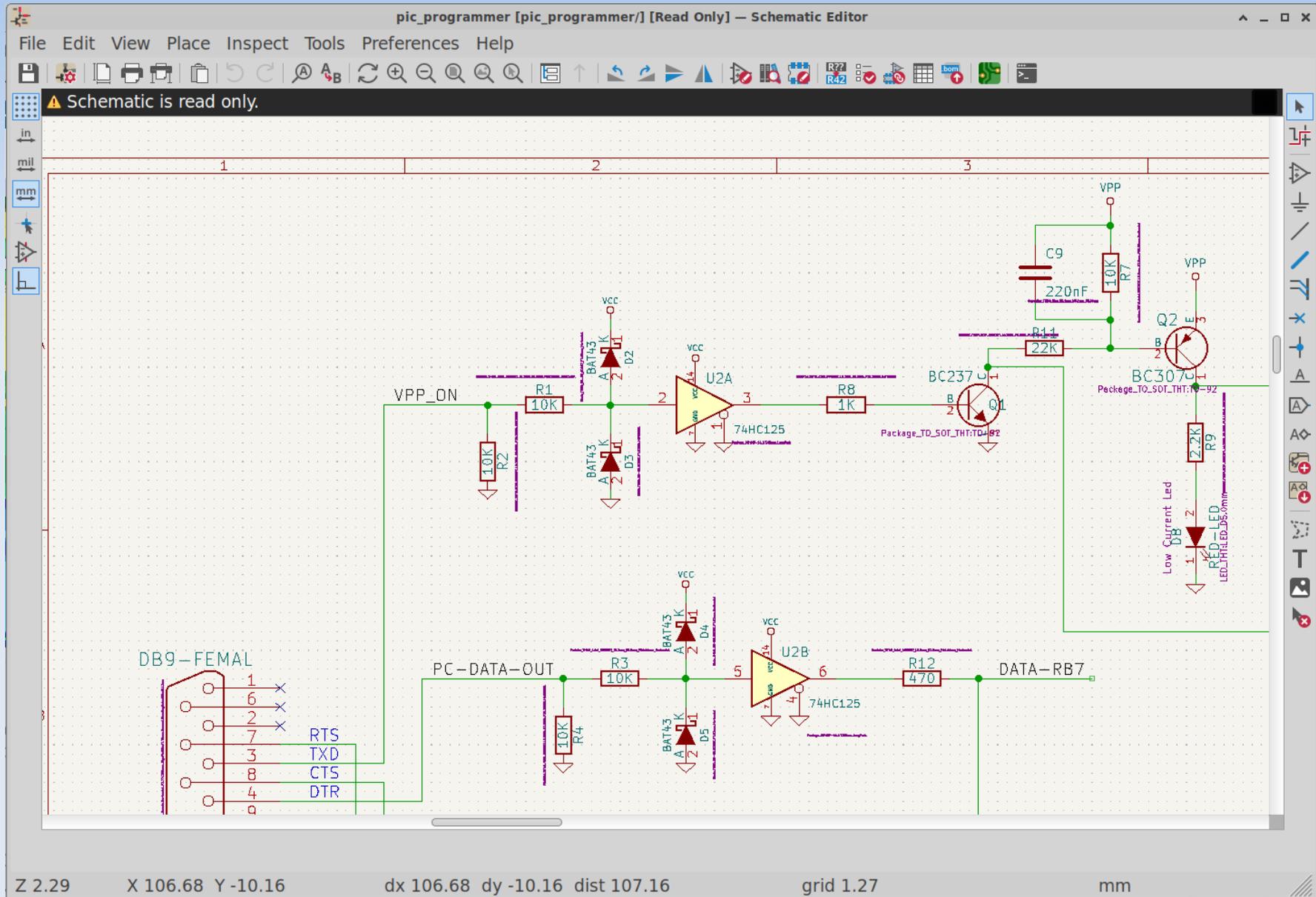
Calculate

1 - 5/13/23 2:22 PM

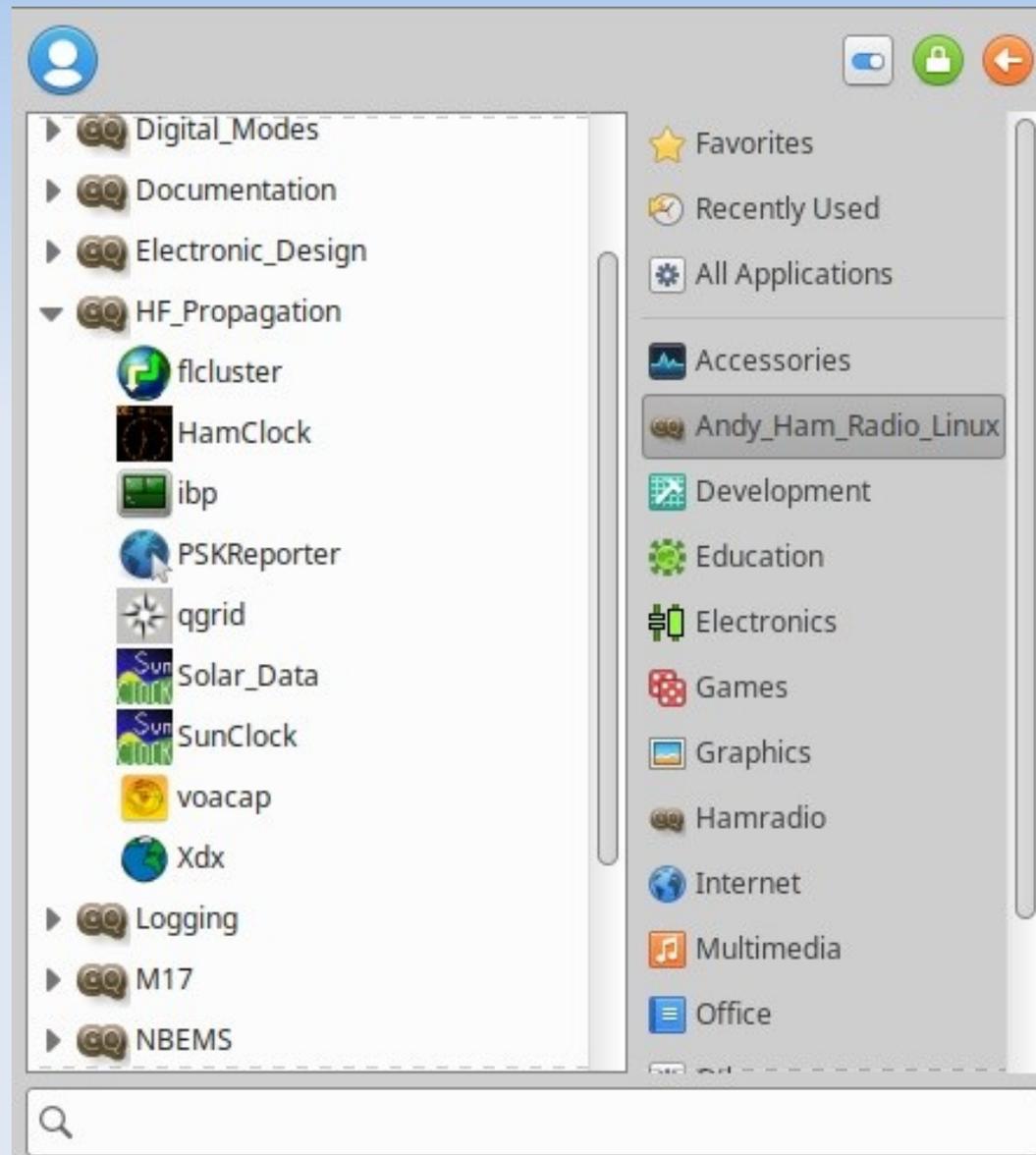
Coil64 v2.1.26 - One layer close-winding coil

Input:
Inductance L: 50 microH
Frequency f: 0.6 MHz

Electronic Design - kicad



HF Propagation Menu



HF Propagation - HamClock

HamClock

KB10IQ
Up 4d 1h WiFi -50 dBm V4.12
20:10 59
Mon DOY 27 2025 UTC

Solar wind
0.7

DRAP, max MHz
7.9

Contests
WA7BNM Weekend Contests
Mexico RTTY International
European Union DX Contest
Minnesota QSO Party
FYBO Winter QRP Sprint
AGCW Straight Key Party
British Columbia QSO Party
North American Sprint, CW
Marconi Club ARI Loano

NCDXF
▲ 14.10
▲ 18.11
▲ 21.15
▲ 24.93
▲ 28.20

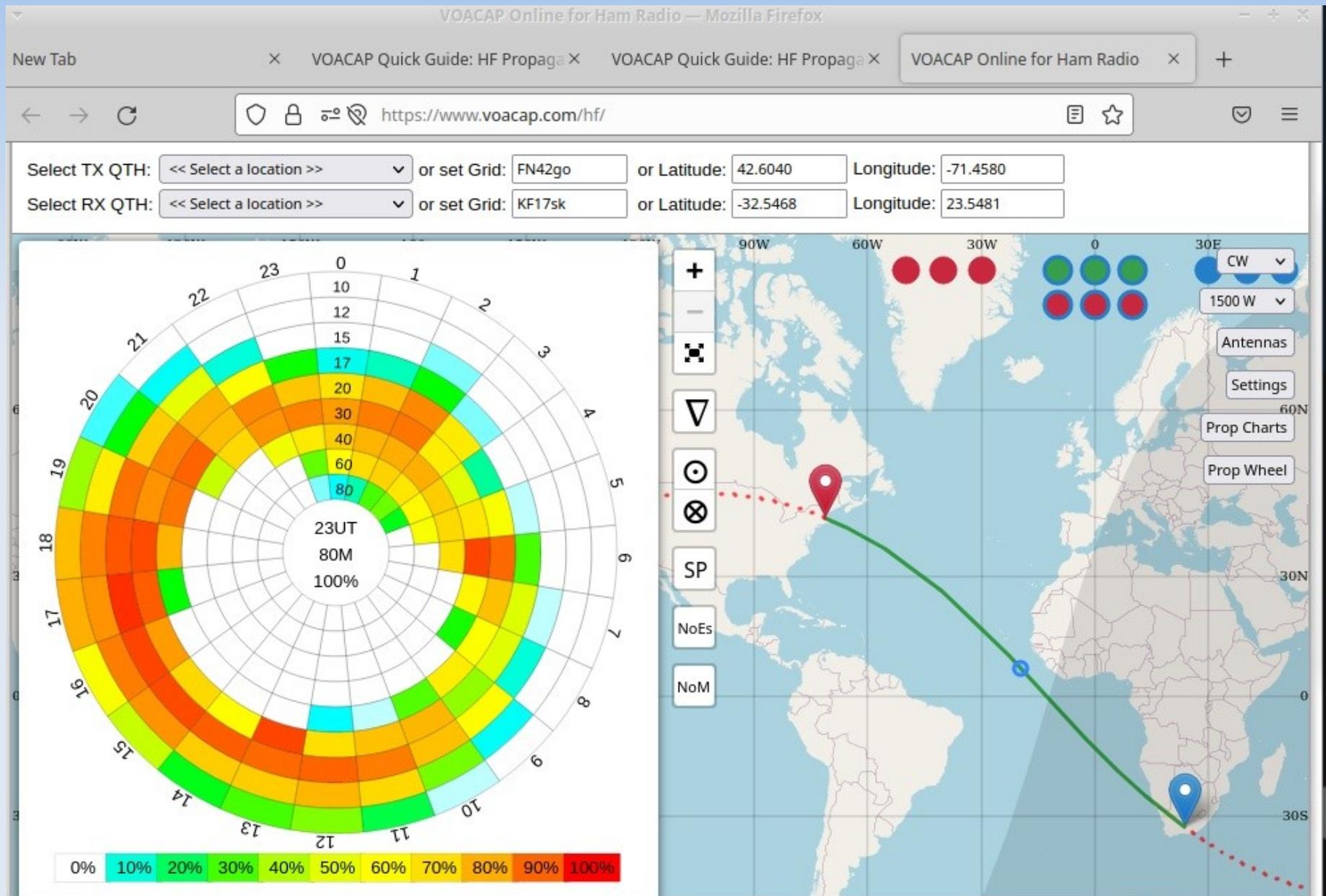
On Air ▲33
All

24915	KMSRF	US-1234
14318	KE4EST	US-7460
14056	K5OHY	US-10272
18082	KC4CR	US-9560
14239	KC8ZKS	US-9478
14239	KE8NHH	US-9478
14323	N2NWK	US-4365
28075	VA7XFM	CA-3445
21313	K2WPA	US-0680
14114	K4OCY	US-2944
21074	KM4IYW	US-2958
14074	NA8W	US-12097
14061	W2AEW	US-11589
21305	KC1QDZ	US-10541
14047	W8NI	US-2953
14318	K4AA	US-7460
14223	K09JP	US-1456
24951	KC3WPT	US-4556
14074	VA3WP	CA-5082
14074	KQ4QCT	US-3059

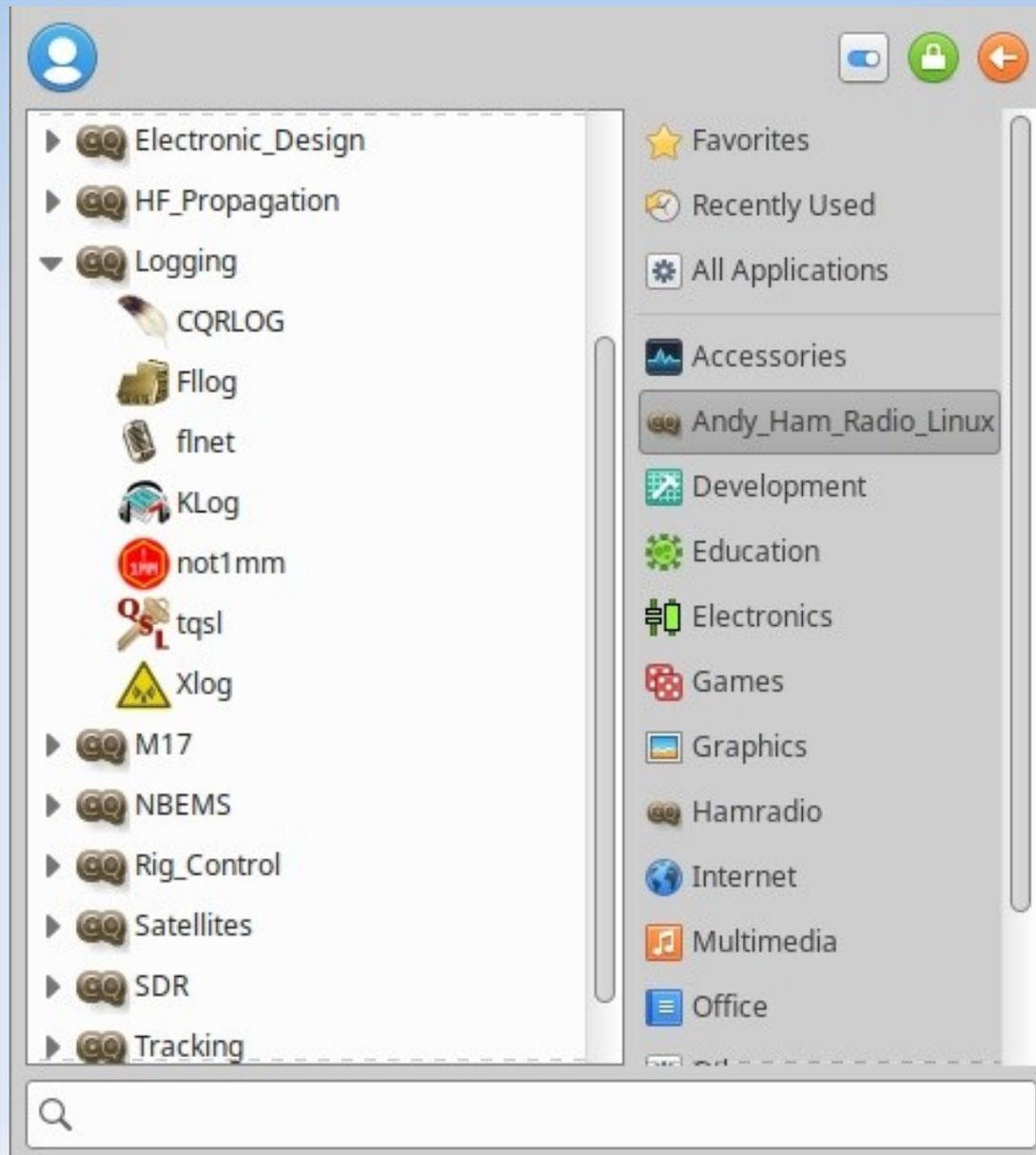
Terrain

HamWeekly.com: HAARP to Conduct Research Campaign
January 28 through February 2 (Updated)

HF Propagation VOACAP



Logging Menu



Logging - CQRLOG

New QSO ... (CQRLOG for Linux), database: Log 001

File View Window Statistics Online log Help

qsodate	time_on	time_off	callsign	freq	mode	rst_s

QSO nr. 1 QTH profile: New country!!

Call: Frequency: Mode: AUTO RST sent: RST rcvd:

Name: QTH: GRID: PWR: QSL_S: QSL_R:

ITU: WAZ: IOTA: State: County: Award:

DXCC ref.: Comment to QSO: QSL VIA:

Offline

Date: Start time: End time:

Comment to callsign:

DXCC statistic

	1.8	3.5	7	10.1	14	18	21	24	28	50	144	430
SSB												
CW												
DIGI												

DXCC info
USA, Massachusetts

WAZ: 05 Cont: NA
ITU: 08 DXCC: W
LAT: 42.2373N LONG: 71.5314W
DIST.: AZIM:
10:17:51 23:14:24
2019-09-05 22:08:41 GE
Local:

Callbook (HamQTH.com)

Save QSO [enter] Quit program

My grid (to change press CTRL+L) Ref. call (to change press CTRL+R) KB1OIQ Ver. 2.3.0 (001)

Logging - Xlog

Log Edit Options Tools Page Settings Help





 Write Update Delete

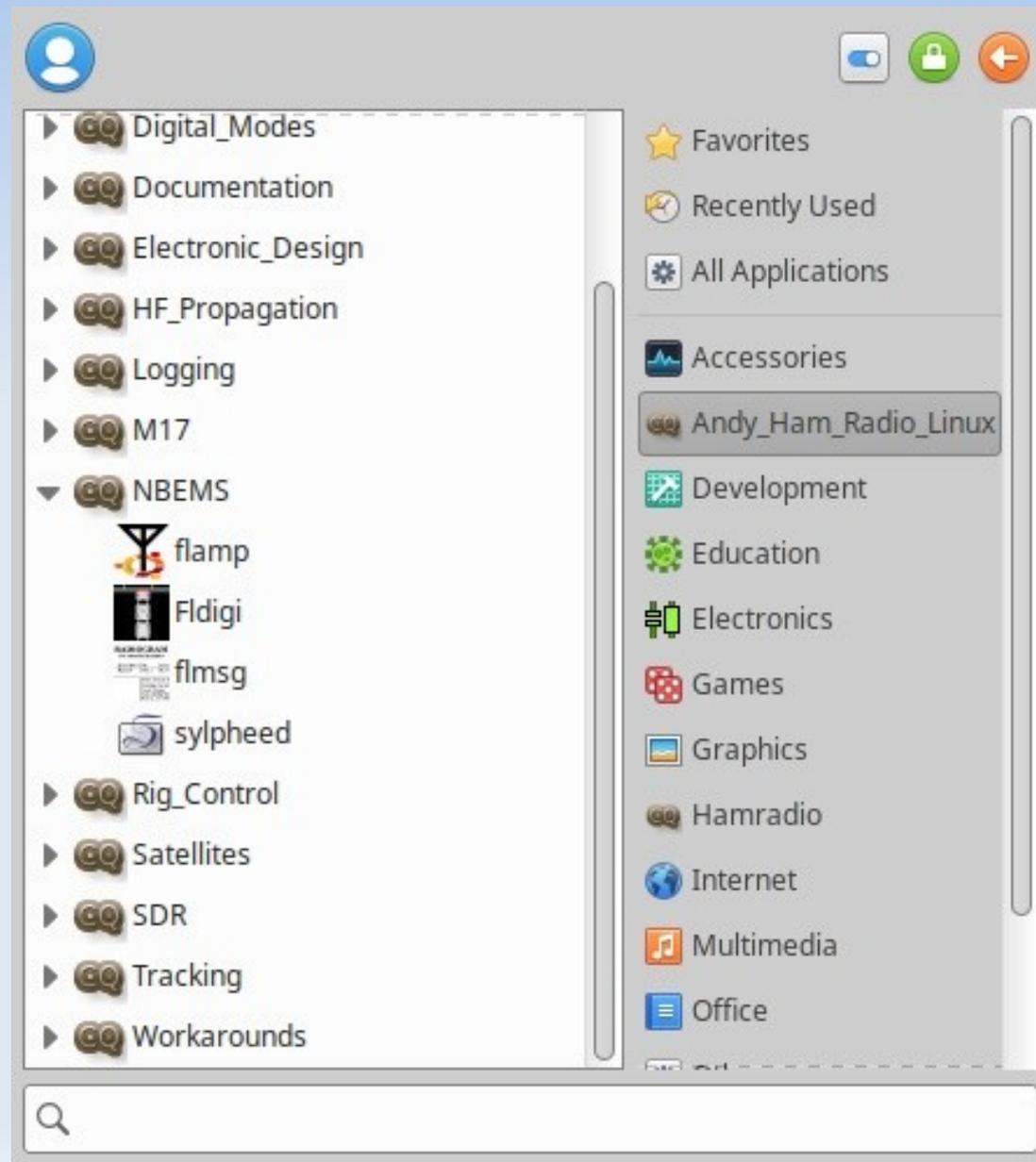
QSO 691

Date: 16 Aug 2010
 UTC: 0023
 Call: AB1HD
 MHz: 50
 Mode: SSB
 TX(RST): 59
 RX(RST): 59
 QSL out QSL in
 Locator: FN42ho
 Remarks: Rich, Chelmsford, MA 01824 USA

NR	DATE	UTC	CALL	BAND	MODE	RST	MYRST	QSLQ	QSLIN	LOCATOR
691	16 Aug 2010	0023	AB1HD	50	SSB	59	59			FN42ho
690	16 Aug 2010	0023	WA1KBE	50	SSB	59	59			FN42ho
689	08 Aug 2010	2035	VE3CWU	7	CW	579	229			FN03
688	08 Aug 2010	2000	N2JNZ	7	CW	459	559			FN24
687	08 Aug 2010	1910	KL7GLL	7	CW	459	449			FM18
686	31 Jul 2010	2145	I5ZSS	18	SSB	59	58			JN53ku
685	12 Jul 2010	0016	WA1KBE	50	SSB	59	59			FN42ho
684	11 Jul 2010	2151	WM4X	7	CW	579	579			FM18
683	11 Jul 2010	2140	W8JRA	7	CW	559	559			EN80
682	11 Jul 2010	1627	N8KZH	7	CW	359	559			EN90
681	11 Jul 2010	1305	W1ZX	7	CW	599	419			FN30
680	11 Jul 2010	1240	VA2NB	7	CW	359	579			FN25

Ready.   22 Aug 2010 1330 UTC

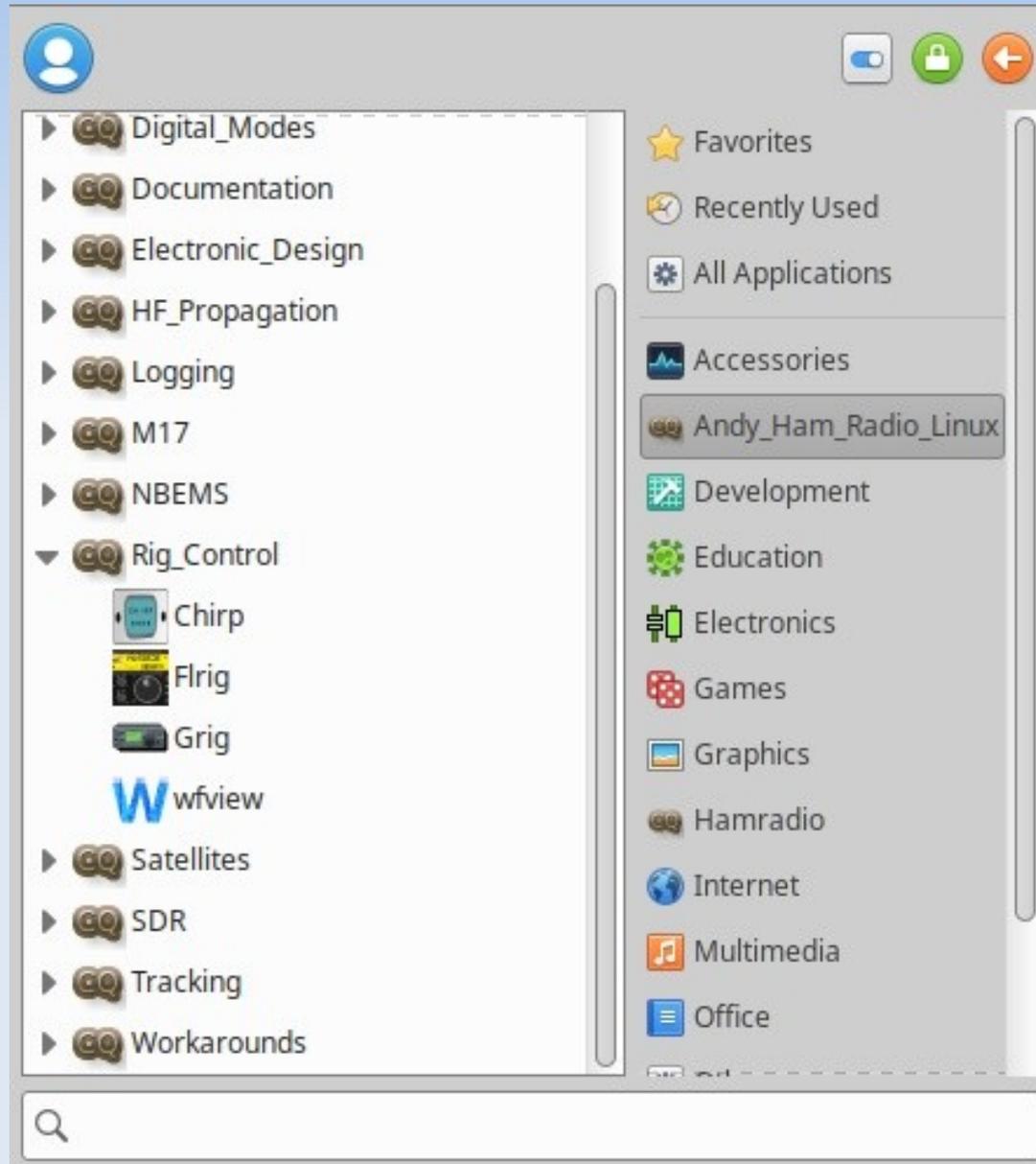
NBEMS Menu



NBEMS

- Narrow Band Emergency Messaging System
- Open Source software suite
- Runs on the 3 major operating systems
- No infrastructure required
- Used by EMCOMM folks
- Ties in with sylpheed email program

Rig Control Menu

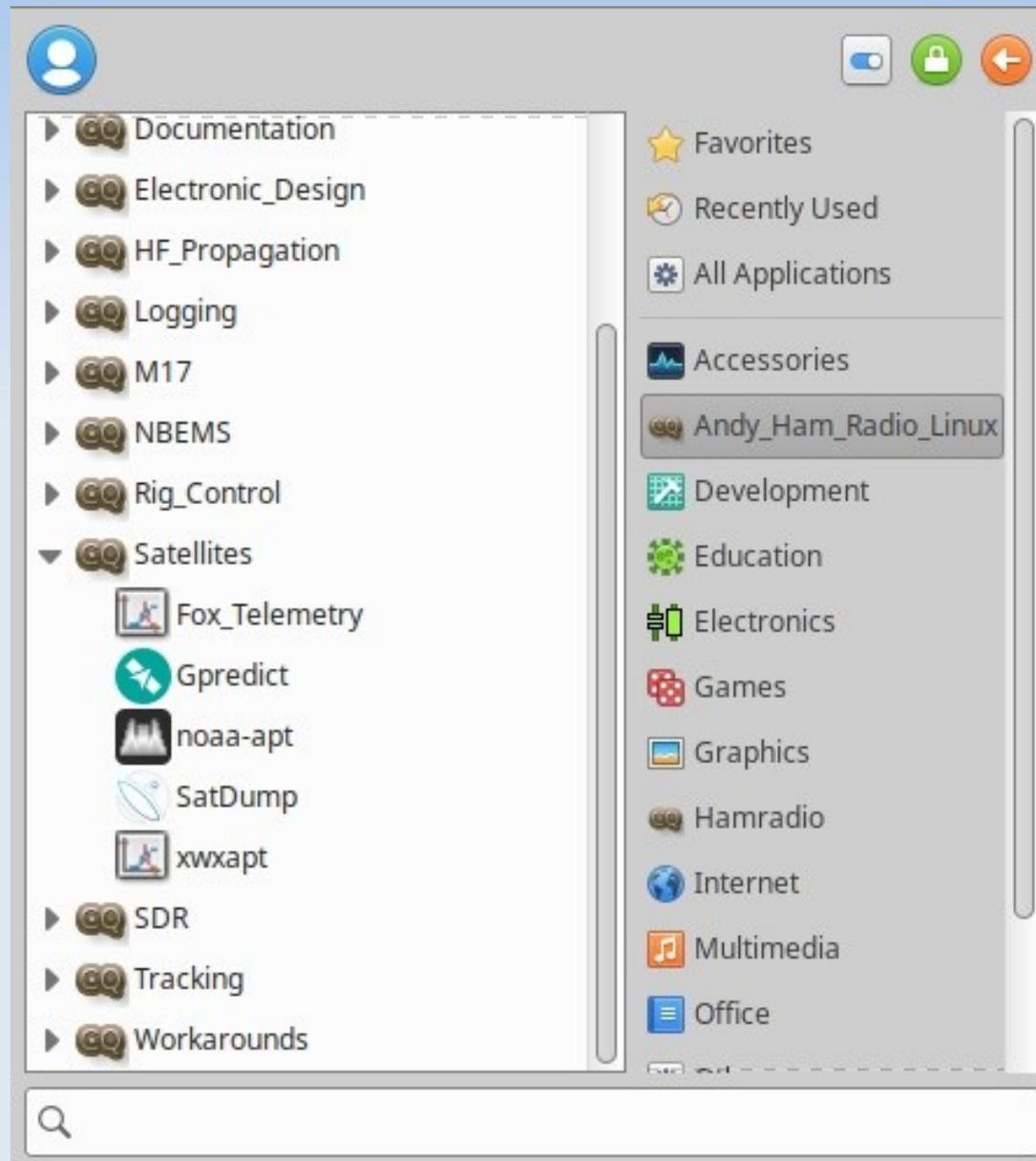


Rig Control - wfview

The screenshot displays the wfview software interface for an IC-7610 radio. The window title is "IC-7610 - wfview". The interface is divided into several sections:

- Menu Bar:** View, Band, Frequency, Settings.
- Spectrum Plot:** A line graph showing signal strength across a frequency range from 28.0 to 28.4 MHz. The y-axis ranges from 0 to 150.
- Waterfall View:** A spectrogram showing signal activity over time, with a y-axis from 0 to 150.
- Control Panel:**
 - Frequency:** 28.020000 MHz, with a frequency scale below it.
 - Mode:** CW (Continuous Wave).
 - Receive Filter:** 3.
 - Filters:** RF, AF, SQ, TX, Mic, Ref, Len, Top, Bot.
 - Buttons:** Transmit, Tune, CW, Rpt/Split, Power On, Power Off, Show More.
 - Preamp/Att:** Preamp: Disabled, Attenuator: 0dB.
 - Antenna:** 1, RX checkbox.
 - Other Settings:** Spectrum Mode: Fixed, Edge: 1, Custom Edge, Clear Peaks, Enable WF, Theme: Jet.
- Footer:** About, Save Settings, Radio Status, Log, Disconnect from Radio, Exit Program, and a status indicator for IC-7610.

Satellites Menu



Satellites - FoxTelem

AMSAT Telemetry Analysis T... 13 May, 14:29

Applications Menu
Trash
Home

AMSAT Telemetry Analysis Tool

File Decoder Spacecraft Help

Input Fox-1E

Health WOD VU Rad (1E) VU Rad WOD Measurements

Satellite Mode: Telemetry Payloads Decoded:
Latest Realtime: Epoch: Uptime: Max: Epoch: Uptime: Min: Epoch: Uptime:

Radio			
	RT	MIN	MAX
TX Temperature (C)	0000	0000	0000
PA Current (mA)	0000	0000	0000
RSSI (dBm)	0000	0000	0000
Fwd Power (mW)	0000	0000	0000
Ref Power (mW)	0000	0000	0000
VGA Control (V)	0000	0000	0000
TX Antenna	0000		
RX Antenna	0000		

Computer Hardware			
	RT	MIN	MAX
Temperature (C)	0000	0000	0000
Battery I2C	0000		
PSU1 I2C	0000		
PSU2 I2C	0000		
RF I2C	0000		
Ground Resets	0000		
IHU Hard Error Data	0000		

Computer Software			
	RT	MIN	MAX
Spacecraft Spin (rpm)	0000	0000	0000
Diagnostic Info	0000		
WOD Stored (000s)	0000		
Safe Mode	0000		
Auto Safe Mode	0000		
Auto Safe Allowed	0000		
Science Mode	0000		
Soft Error	0000		

Battery			
	RT	MIN	MAX
Cell A (V)	0000	0000	0000
Cell A + B (V)	0000	0000	0000
Cell A + B + C (V)	0000	0000	0000
Temperature A (C)	0000	0000	0000
Temperature B (C)	0000	0000	0000
Temperature C (C)	0000	0000	0000
Current (mA)	0000	0000	0000
Board Temp (C)	0000	0000	0000

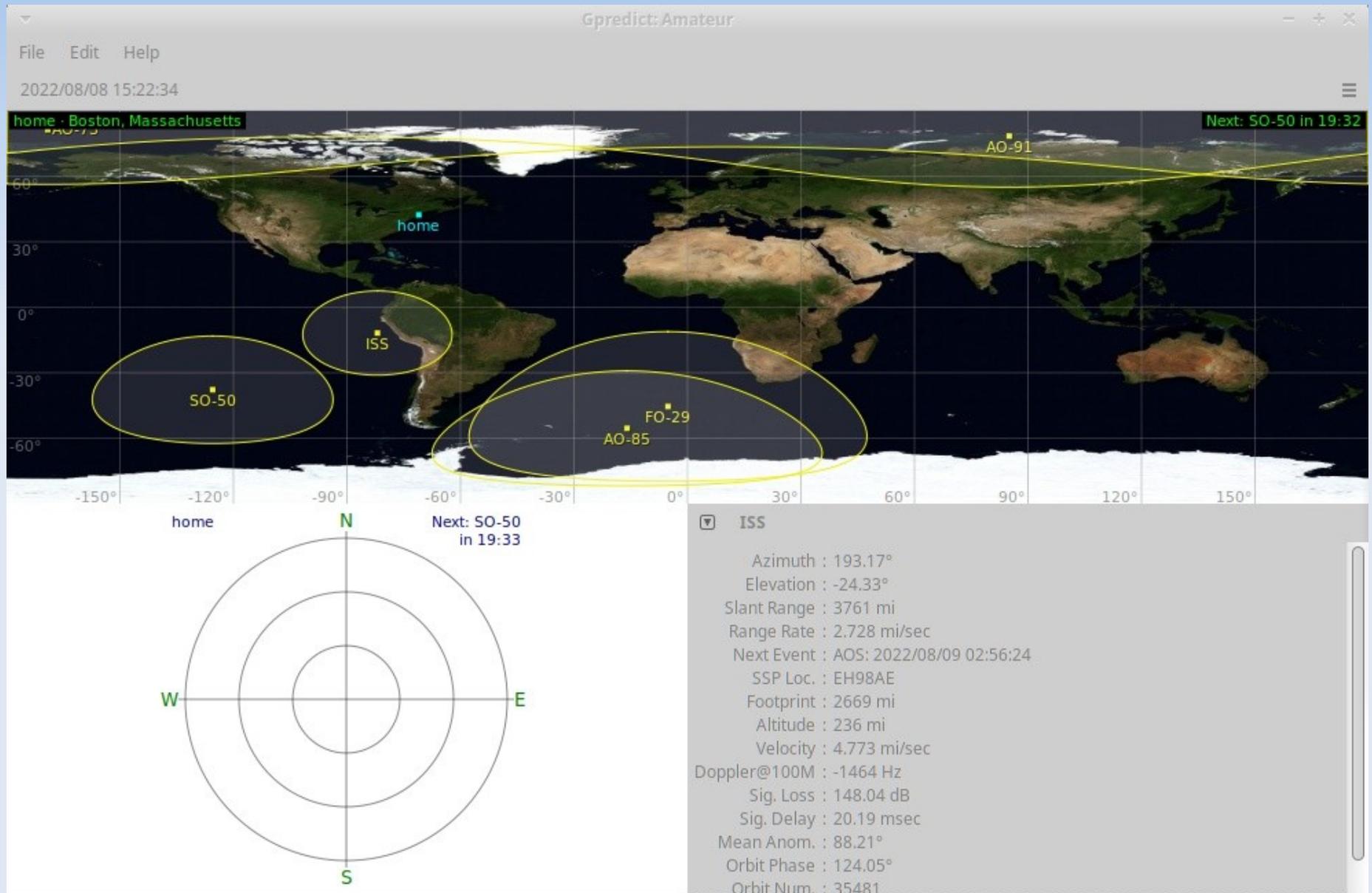
MPPT			
	RT	MIN	MAX

Experiments			
	RT	MIN	MAX
EXP4 Temp (C)	0000	0000	0000
Vanderbilt Radiation	0000		

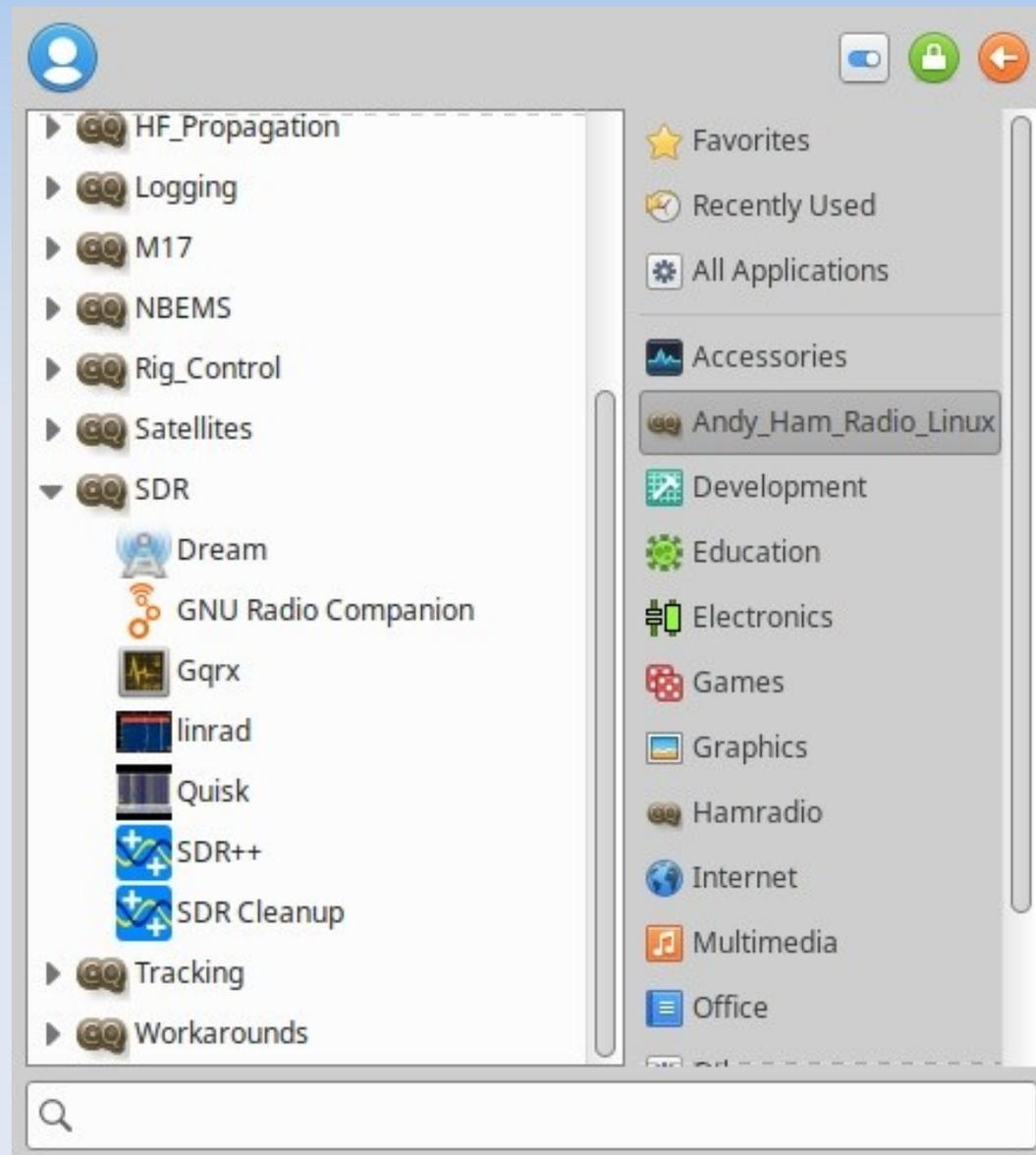
Current RT MAX MIN Display Raw Values Display UTC Time Last 180 samples Captured:

Version 1.12z3 - 27 Oct 2022 Logs: /home/andy/ SDR Errors: 0 / 0 Audio missed: 0.0% / 0 Frames: 0 Payloads: 0 Queue: 0 / 0

Satellites - gpredict



SDR Menu



SDR – GNU Radio Companion

- SDR = Software Defined Radio
- Draw a block diagram of your signal processing
- GRC will write the Python code and execute it
- Supports SDR devices such as:
 - RTL-SDR dongle
 - HackRF
- Many tutorials are available online

SDR – GNU Radio Companion #1

hackrf_lesson_1.grc - /home/andy/grc

File Edit View Run Tools Help

hackrf_lesson_1 x hackrf_lesson_2 x

Options
Output Language: Python
Generate Options: QT GUI

Variable
ID: samp_rate
Value: 2M

QT GUI Range
ID: freq
Label: Freq
Default Value: 99.5
Start: 88
Stop: 108
Step: 100m

QT GUI Chooser
ID: freq
Label: Station
Num Options: 4
Default option: 99.5
Option 0: 99.5
Label 0: WCRB
Option 1: 100.7
Label 1: WZLX
Option 2: 104.5
Label 2: WXLO
Option 3: 105.7
Label 3: WROR

QT GUI Range
ID: volume
Label: Volume
Default Value: 250m
Start: 0
Stop: 1
Step: 25m

RTL-SDR Source
Sync: Unknown PPS
Number Channels: 1
Sample Rate (sps): 2M
Ch0: Frequency (Hz): 99.5M
Ch0: DC Offset Mode: 0
Ch0: IQ Balance Mode: 0
Ch0: Gain Mode: False
Ch0: RF Gain (dB): 10
Ch0: IF Gain (dB): 20
Ch0: BB Gain (dB): 20

Low Pass Filter
Decimation: 10
Gain: 1
Sample Rate: 2M
Cutoff Freq: 75k
Transition Width: 25k
Window: Hamming
Beta: 6.76

Rational Resampler
Interpolation: 12
Decimation: 5
Taps:
Fractional BW: 0

WBFM Receive
Quadrature Rate: 480k
Audio Decimation: 10

Multiply Const
Constant: 250m

Audio Sink
Sample Rate: 48 kHz

QT GUI Frequency Sink
FFT Size: 2048
Center Frequency (Hz): 99.5M
Bandwidth (Hz): 2M

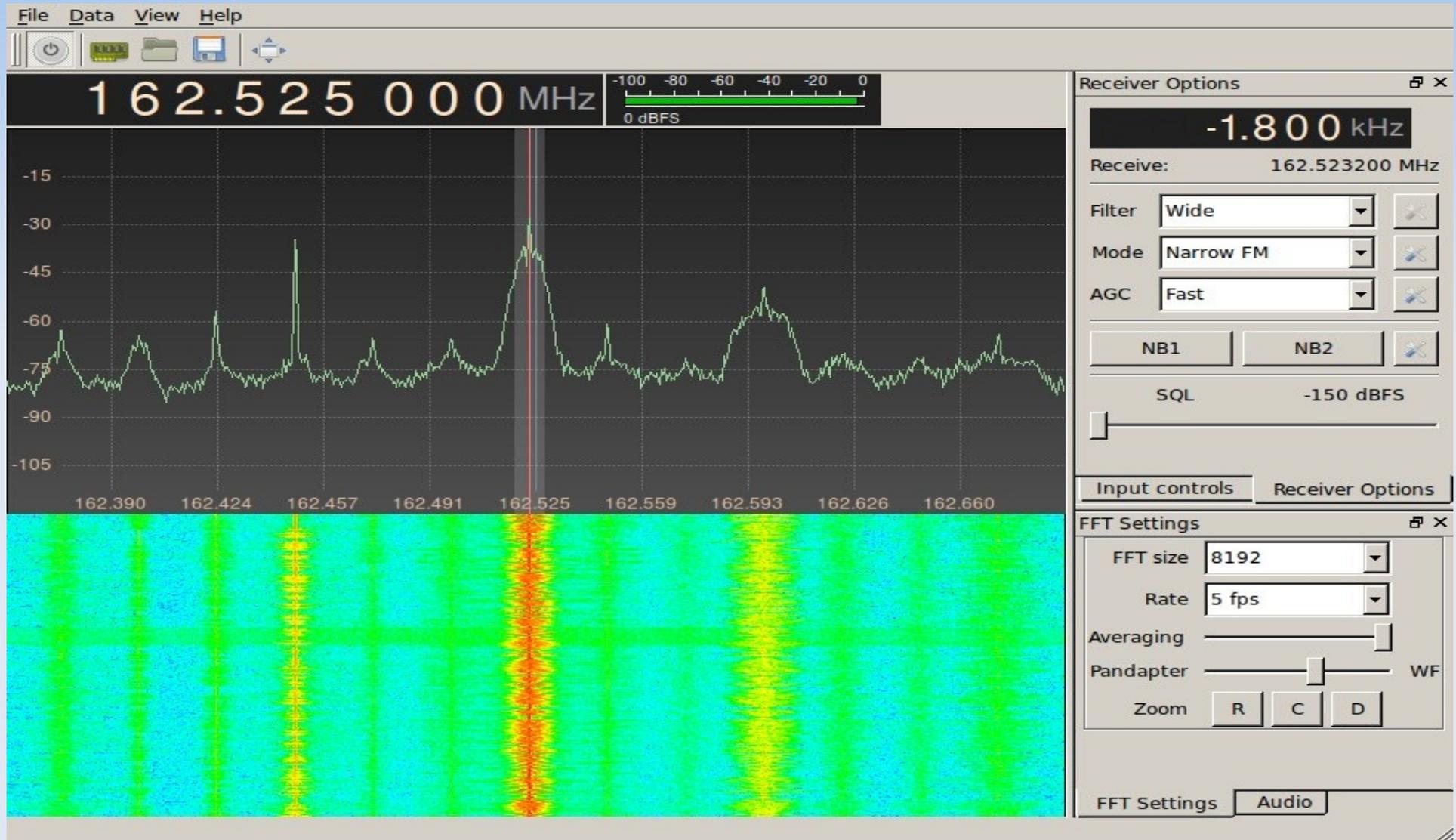
QT GUI Waterfall Sink
FFT Size: 1024
Center Frequency (Hz): 99.5M
Bandwidth (Hz): 2M

00000001
Detached kernel driver
Found Rafael Micro R820T tuner
[R82XX] PLL not locked!
Exact sample rate is: 2000000.052982 Hz
[R82XX] PLL not locked!
Allocating 15 zero-copy buffers
aU

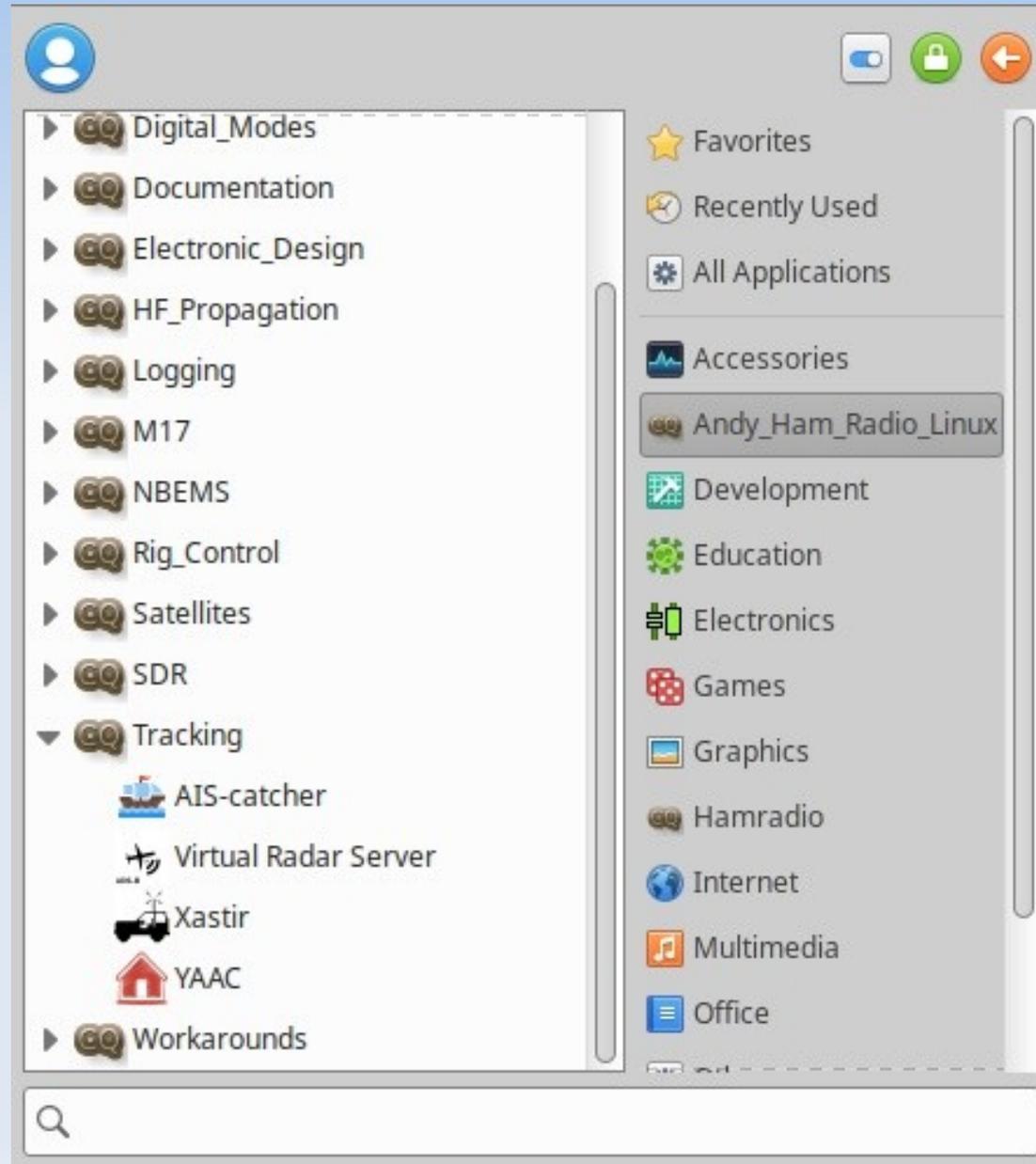
ID	Value
Imports	
Variables	
freq	99.5
freq	99.5
samp_ra	2000000.0

- Core
 - Audio
 - Boolean Operators
 - Byte Operators
 - Channelizers
 - Channel Models
 - Coding
 - Control Port
 - Debug Tools
 - Deprecated
 - Digital Television
 - Equalizers
 - Error Coding
 - File Operators
 - Filters
 - Fourier Analysis
 - GUI Widgets
 - Impairment Models
 - Industrial I/O
 - Instrumentation
 - IQ Balance
 - IQ Correction
 - Level Controllers
 - Math Operators
 - Measurement Tools
 - Message Tools
 - Misc
 - Modulators
 - Networking Tools
 - OFDM

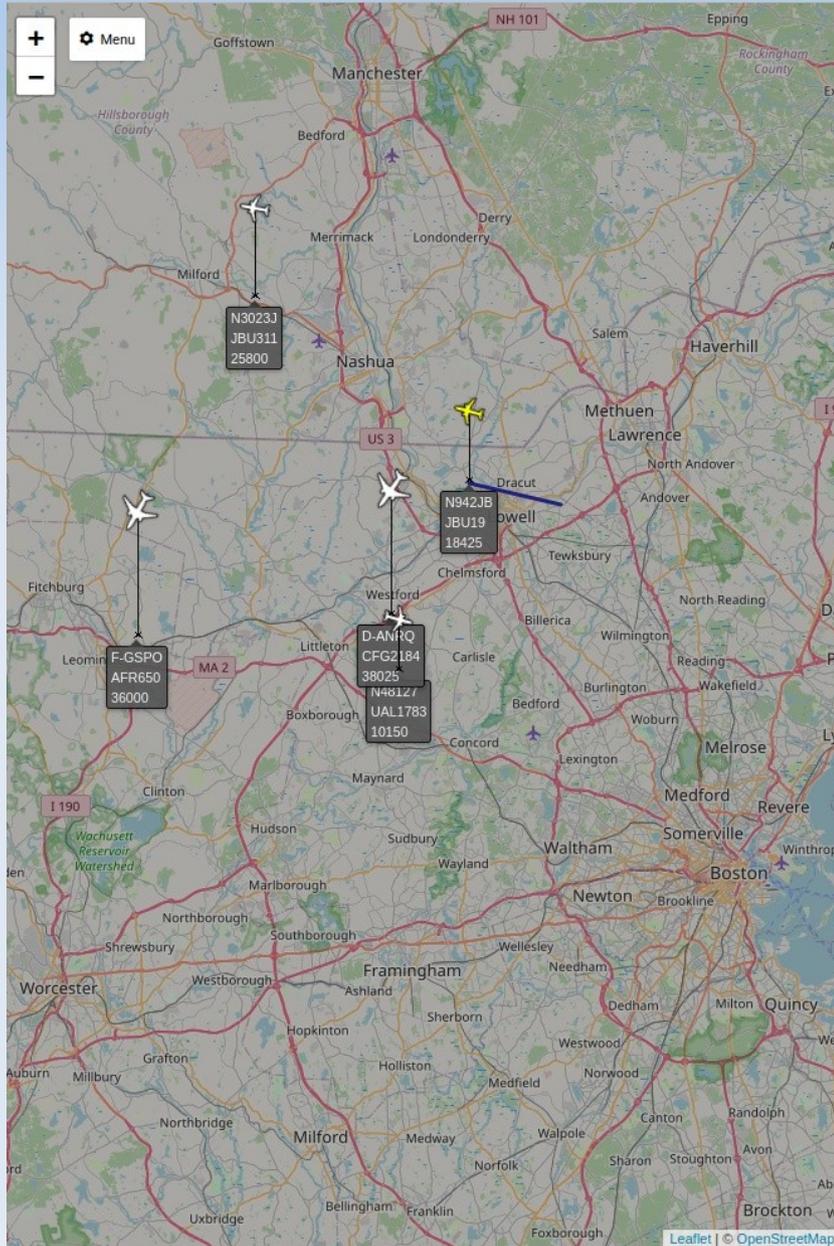
SDR - gqrx



Tracking Menu



Tracking - Virtual Radar Server



N942JB **AD1560** **JBU19**

JetBlue Airways
United States
Airbus A321 231SL

Altitude: 18425 ft **Vertical Speed:** 1664 ft/m **Speed:** 355.0 kts **Heading:** 284.0° **Distance:** 2825.79 nmi **Squawk:**

Engines: Twin jet **Species:** Landplane **Wake Turbulence:** Medium

Route:
 BOS General Edward Lawrence Logan, Boston, United States
 SAN San Diego, United States

www.airport-data.com :: www.airliners.net :: www.airframes.org
 Show on map :: Enable auto-select :: Submit route

Tracking 6 aircraft Pause :: List only visible

Silhouette	Flag	Reg.	ICAO	Callsign	Route	Altitude	Speed
		C-FXJF	C03DAC			19025 ft	311.0 kts
		N48127	A5EF0E	UAL1783	LAX-BOS	10150 ft	324.0 kts
		N942JB	AD1560	JBU19	BOS-SAN	18425 ft	355.0 kts
		F-GSPQ	3949EE	AFR650	CDG-CUN	36000 ft	449.0 kts
		D-ANRQ	3C7A51	CFG2184	FRA-HAV	38025 ft	427.0 kts
		N3023J	A3298A	JBU311	BOS-ORD	25800 ft	356.0 kts

Powered by Virtual Radar Server

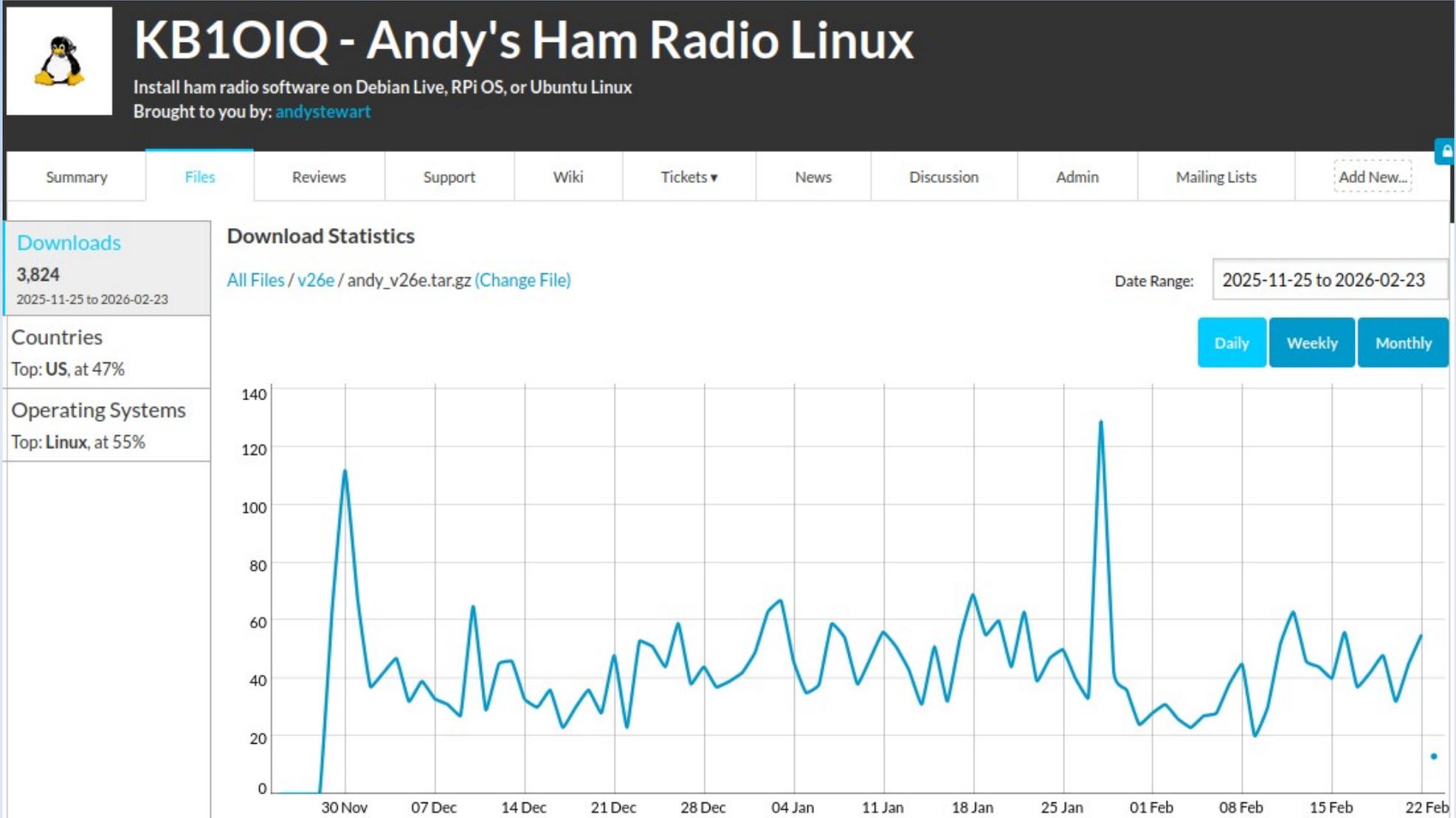
What's Hot?

- HamClock and similar programs
 - Elwood Downey WB0OEW (SK)
 - Many people working to keep HamClock alive
 - Many similar programs are in development
 - Stay tuned!
- FT2 digital mode
 - Created by hams in Italy
 - 4 times faster than FT8
 - First QSOs: 16-Feb-2026

Status of AHRL

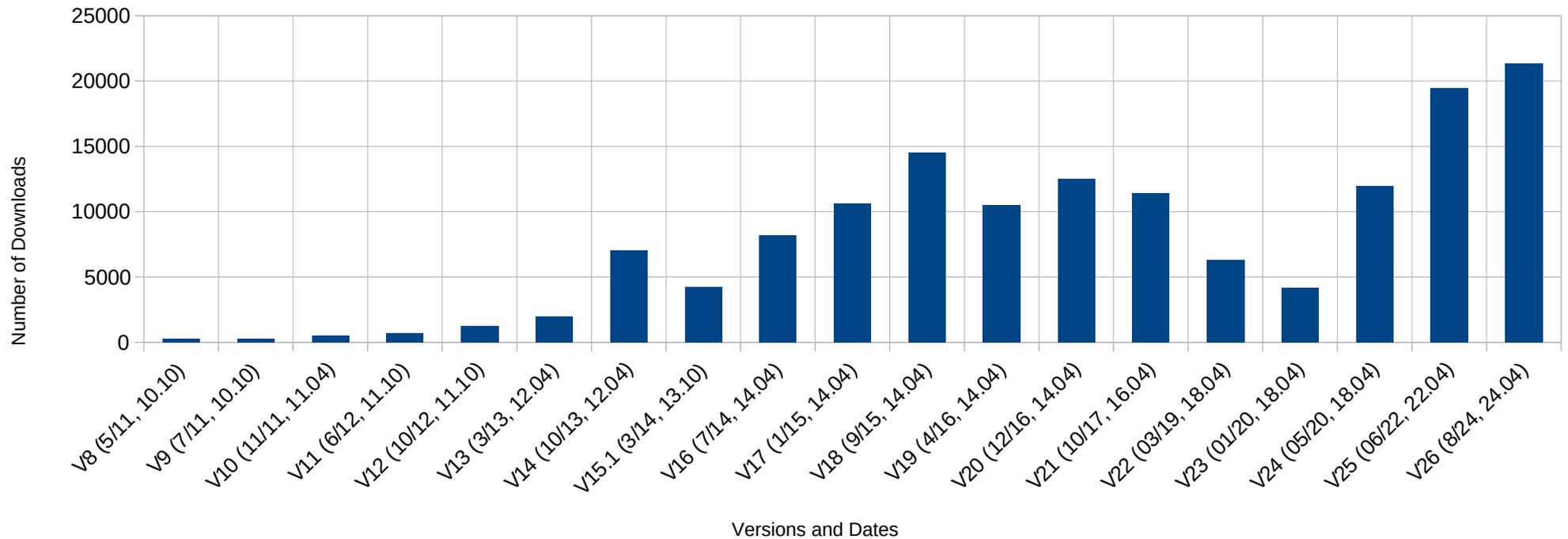
- First release May 2011
- 36 versions later in 2025
- More Linux flavors are supported
- Raspberry Pi 4/5/400/500 are now supported
- Many thanks to the community!
 - actively reporting bugs
 - suggesting new programs
 - interest seems to be high based on downloads
- Many thanks to ARRL for using AHRL!
- KB1OIQ remains enthusiastic!

v26e Downloads

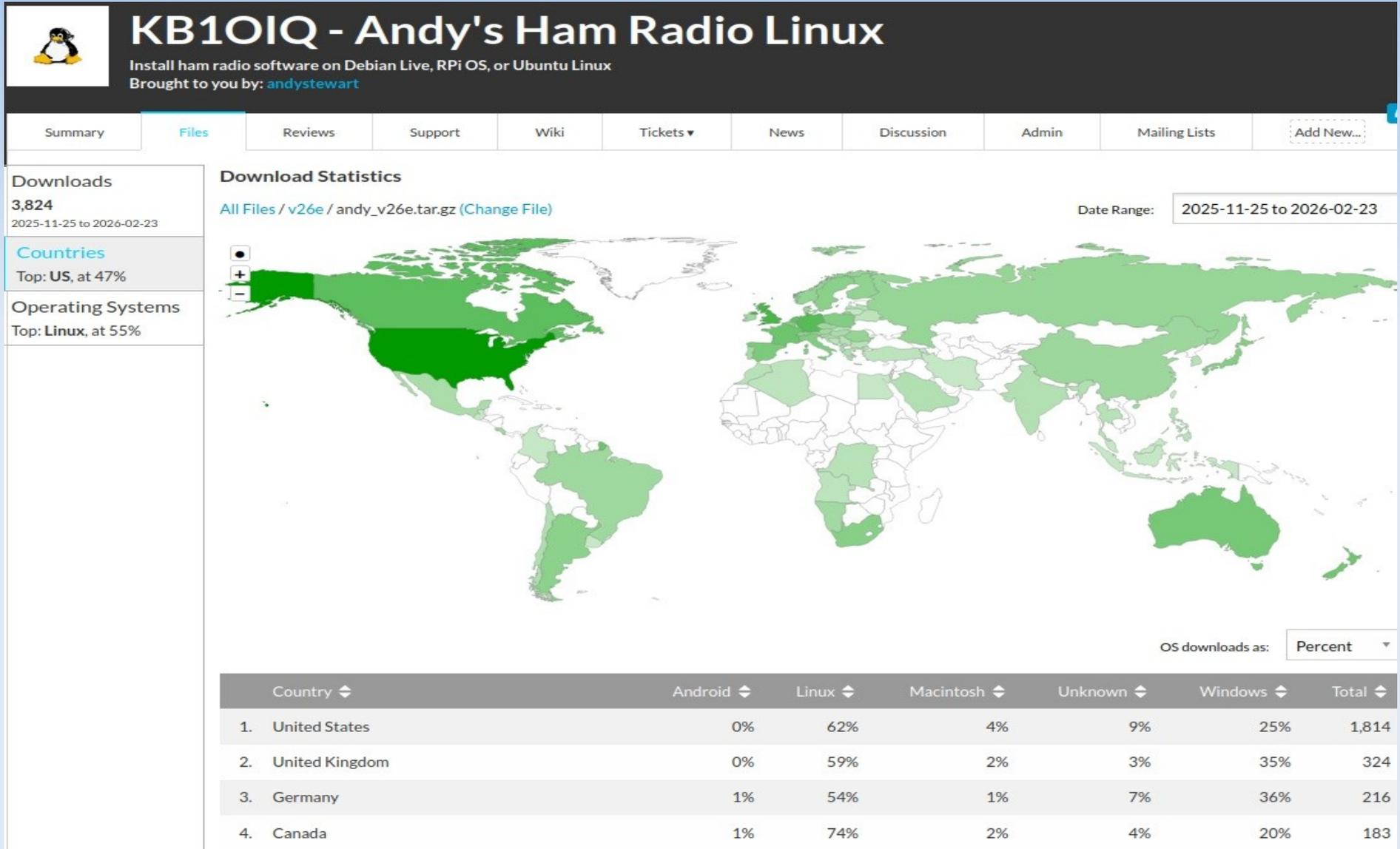


Downloads by Version

Andy's Ham Radio Linux - Download History



Downloads by Geography



Awarded 03/2022

- 100,000 downloads later.....
- <https://nediv.arri.org/2022/03/02>



Total Downloads to Date

- 147,000 downloads from 2011 to 23-Feb-2026

Related Online Videos

- RATPAC talk (1/2025)
 - Radio Amateur Training Planning and Activities Committee
 - Search on YouTube for RATPAC KB1OIQ
2,500 views as of 02/2026 – Thank you!
- Dayton Hamvention 5/2025
 - Search on YouTube "DARA Hamvention Linux"
5,000 views as of 02/2026 – Thank you!
- The Old Tech Guy (KB9RLW) (02/2026)
Search for "Andy's Ham Radio Linux" 2025
16,000 views – THANK YOU!!!

Sourceforge

- <http://www.sourceforge.net>
- Search for KB1OIQ ... OR ...
- Search for Andy's Ham Radio Linux
- The green "Download" button will give you the most recent version.
- In "Files", grab the GETTING_STARTED document for the most recent version

Last Slide!

- Slides available:
 - Email: kb1oiq@arrl.net
- Thanks for coming to this talk!
- Have a lot of fun, and 73 de Andy KB1OIQ ..
- ... and that's the way it is ...